
Original Paper

Trees of Mahanadi River areas of Cuttack, Odisha: Part II

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Abstract: The Mahanadi River system originates in the state of Chhattisgarh and primarily flows through Chhattisgarh and Odisha. It then distributes its waterbody into numerous distributaries in the Cuttack district of Odisha, before ultimately releasing into the Bay of Bengal. This river system sustains a variety of wildlife, such as aquatic fauna, birds, and amphibians. The rapid urbanization and increasing threat to the river have led to the need for conservation of this river and its associated wildlife. Tree species significantly influence the wildlife and river ecosystems. The present study aims to document the tree diversity of the Mahanadi River areas of Cuttack for future conservation aspects of wildlife and river systems. Through field survey, 30 tree species are enumerated and presented here in part 2 of "Trees of Mahanadi River area of Cuttack" along with some photographs for easy identification in the field.

Keywords: Floral wealth, tree species, enumeration, conservation

Introduction

The river system has played a key role in the survival of human civilization, culture, and religious activities in India. The Mahanadi River originates from the Sihawa Mountain in the Dhamtari district of the state of Chhattisgarh and flows through Kanker, Jahangir Champa, and Raigarh districts in Chhattisgarh. Later, it flows through Sambhalpur district, Subarnapur, Boudh, Khordha, and Cuttack districts in Odisha. The river then distributes its course in the Mahanadi delta before pouring into the Bay of Bengal. The river sustains people, wildlife, and the environment. It also sustains a diverse range of biodiversity, encompassing numerous freshwater fishes, molluscs, reptiles, amphibians, and water birds, among others. It carries nutrients from one place to another, providing fertile lands near the river course, feeding the wetlands, and adjoining forest lands. The river and the delta form terrestrial habitats for wildlife. Aquatic and terrestrial faunal habitats largely depend on the floral wealth in and around the Mahanadi River. Earlier documentation of the floral wealth of the Mahanadi River focused more on the mangrove ecosystem and less on the river's banks.



Plate 1: Leaves and flowers of *Simarouba glauca*



Plate 2: Flowers and leaves of *Ziziphus oenoplia*



Plate 3: Leaves, flowers and branching pattern of *Casearia tomentosa*



Plate 4: Flowers and leaves of *Senna siamea*



Plate 5: Flowers and leaves of *Tabebuia aurea*

About 443 floral species were reported from the mangrove ecosystem of Odisha in the 2001 (Rao and Banerjee, 2001). In 2015, the Mangrove Forest Division of Rajnagar documented 94 mangrove plants from the Bhitarkanika mangrove forest. Apart from the mangrove flora of the Mahanadi delta, Kumar and his team revealed about 140 medicinal plants from the banks of the Mahanadi River in 2018 and 15 medicinal plants are also reported from Naraj, Cuttack (Lal et al., 2024). The Mahanadi River also yields another 45 medicinal herbs (Marndi et al., 2022). A recent report on the floral diversity assessment revealed the presence of 246 plants from the districts of Cuttack, Angul, and Nayagarh in Odisha (APRF, 2024). Phase I of the survey, which aimed to enumerate tree species near the Mahanadi River, revealed 30 species in the Cuttack district of Odisha (Devi, 2024). The present study focuses on the enumeration of tree species near the banks of the Mahanadi River in the Cuttack district of Odisha as a second phase of survey activities.

Methodology

The Phase II survey of tree enumeration of Mahanadi River was carried out using classical methods of plant identification through field survey. The photographs of some of the tree species are taken in field for identification (Devi et al., 2024). Enumerated trees are identified at Ambika Prasad Research Foundation, Odisha, India by Dr. Sanjeet Kumar.

Results and discussion

The second phase of the survey for tree enumeration revealed 30 species belonging to 18 families and 29 genera (Table 1). Among the listed tree species, trees like *Simarouba glauca*, *Terminalia catappa*, *Tacoma stans*, *Tabebuia aurea*, *Gliricidia sepium* and *Senna siammea* are ornamental trees. Large canopy trees like *Ficus virens* and *Ficus religiosa* are preferred by birds for nesting. Again, tree species like *Ziziphus oenopia* and *Mimusops elengi* are preferred fruits of frugivorous small birds.

Table 1: Tree species of Mahanadi River banks of Cuttack, Odisha

Botanical Name	Family
<i>Acacia mangium</i>	Fabaceae
<i>Acacia nilotica</i>	Fabaceae
<i>Albizia lebbbeck</i>	Fabaceae
<i>Alstonia scholaris</i>	Apocynaceae
<i>Annona squamosa</i>	Annonaceae
<i>Casearia tomentosa</i> (Plate 3)	Salicaceae
<i>Casuarina equisetifolia</i>	Casuarinaceae
<i>Dalbergia sissoo</i>	Fabaceae
<i>Ficus religiosa</i>	Moraceae

<i>Ficus virens</i>	Moraceae
<i>Gliricidia sepium</i>	Fabaceae
<i>Haldina cordifolia</i>	Rubiaceae
<i>Lagerstroemia speciosa</i>	Lythraceae
<i>Leucaena leucocephala</i>	Fabaceae
<i>Mimusops elengi</i>	Sapotaceae
<i>Mitragyna parvifolia</i>	Rubiaceae
<i>Moringa oleifera</i>	Moringaceae
<i>Neolamarckia cadamba</i>	Rubiaceae
<i>Phyllanthus acidus</i>	Phyllanthaceae
<i>Polyalthia longifolia</i>	Annonaceae
<i>Samanea saman</i>	Fabaceae
<i>Sapindus emarginatus</i>	Sapindaceae
<i>Senna siamea</i> (Plate 4)	Fabaceae
<i>Simarouba glauca</i> (Plate 1)	Simaroubaceae
<i>Spondias pinnata</i>	Anacardiaceae
<i>Tabebuia aurea</i> (Table 5)	Bignoniaceae
<i>Tecoma stans</i>	Bignoniaceae
<i>Tectona grandis</i>	Lamiaceae
<i>Terminalia catappa</i>	Combretaceae
<i>Ziziphus oenoplia</i> (Plate 2)	Rhamnaceae

Conclusion

The study of Mahanadi River's floral wealth, particularly tree species, is crucial for wildlife and river ecosystem conservation, aiding environmentalists, and wildlife researchers in their efforts. The provided trees in the paper will be useful in the restoration works.

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