Journal of Biodiversity and Conservation 10(3): E1-E4 ISSN: 2457-0761 (online)
2026 http://www.aprfjournal.in

Editorial

Trees for Asian Elephant (*Elephas maximus*) in Odisha, India

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DOI: https://doi.org/10.5281/zenodo.21460696

Human–elephant conflict remains one of the greatest conservation challenges in Odisha state, India (Das et al., 2025). Crop raiding often occurs when natural food resources become insufficient or inaccessible. Identification of the tree species most preferred by elephants and ensuring their adequate availability within forests, forest officials can improve habitat productivity and reduce the need for elephants to forage outside habitat areas. Fodder plantations also established near elephant habitats can act as supplementary feeding zones, decreasing pressure on agricultural lands and promoting coexistence between humans and elephants (Dhamdhere et al., 2026). The Asian Elephant (*Elephas maximus*) is one of the most ecologically significant large herbivores inhabiting the tropical and subtropical forests of Asia (Figure 1). As a key species and ecosystem engineer, Asian Elephants play an indispensable role in maintaining forest structure, facilitating seed dispersal, creating canopy gaps and enhancing habitat heterogeneity (Behera et al., 2020). In India, Odisha state supports one of the largest populations of Asian elephants in eastern India with herds distributed across diverse landscapes. The long-term survival of these elephant populations depends largely on the availability, diversity and seasonal abundance of natural fodder resources (Sharma et al., 2025). Among the fodder plants, tree species form an important component of the elephant's diet by providing bark, leaves, twigs, fruits, flowers, roots and young shoots throughout the year. Documenting fodder tree species is therefore a fundamental step in understanding the feeding ecology of Asian elephants. They exhibit clear preferences for certain tree species based on nutritional quality, digestibility, mineral composition, moisture content, seasonal availability and accessibility. Identifying these preferred tree species provides valuable insights into habitat quality, carrying capacity and the ecological requirements of elephant populations. Information on fodder tree species enables wildlife biologists to better understand how elephants utilize forest resources and how changes in vegetation composition may influence their movement patterns and survival. One of the major applications of documenting fodder trees is habitat assessment and management. Forests with high diversity and abundance of preferred fodder trees are generally capable of supporting healthier elephant populations. Conversely, degradation of these tree resources can reduce habitat suitability and force elephants to travel longer distances in search of food.

Such movements frequently bring elephants into agricultural landscapes, increasing the incidence of human–elephant conflict.

Figure 1: A heard of Asian Elephant in Odisha, India

In last decades, I visited several elephant habitats and corridors of Asian elephants in Odisha state and found that they usually consume about 29 preferred fodder tree species. Plants are identified using flora books (Saxena and Brahmam, 1994-1996). The most common fodder tree species are *Aegle marmelos*, *Albizia odoratissima*, *Albizia procera*, *Artocarpus heterophyllus*, *Bombax ceiba*, *Bridelia retusa*, *Buchanania lanzan*, *Careya arborea*, *Chloroxylon swietenia*, *Dillenia aurea*, *Dillenia pentagyna*, *Diospyros melanoxylon*, *Ficus arnottiana*, *Ficus benghalensis*, *Ficus racemosa*, *Ficus virens*, *Gardenia latifolia*, *Lannea coromandelica*, *Limonia acidissima*, *Madhuca longifolia*, *Mallotus philippensis*, *Mangifera indica*, *Naringi crenulata*, *Phyllanthus emblica*, *Pterocarpus marsupium*, *Shorea robusta*, *Sterculia urens*, *Tamarindus indica*, *Terminalia bellirica* and *Ziziphus rugosa*.

Table 1: Preferred fodder tree species of Asian Elephants

Plant Name	**Local name**	**Parts consumed**
Aegle marmelos (L.) Corrêa	Bela	Fruits
Albizia odoratissima (L.f.) Benth.	Tantera	Bark and twigs
Albizia procera (Roxb.) Benth.	Sirisa	Bark
Artocarpus heterophyllus Lam.	Pansa	Fruits
Bombax ceiba L.	Simili	Twigs

Bridelia retusa (L.) A.Juss.	Kasi	Bark and twigs
Buchanania lanzan Spreng.	Chara	Bark and twigs
Careya arborea Roxb.	Kumbhi	Bark
Chloroxylon swietenia DC.	Bheru	Bark and twigs
Dillenia aurea Sm.	Rai	Fruits
Dillenia pentagyna Roxb.	Bada rai	Fruits
Diospyros melanoxylon Roxb.	Kendu	Roots
Ficus arnottiana (Miq.) Miq.	Bana Aswastha	All parts
Ficus benghalensis L.	Bara	Bark, leaves and branches
Ficus racemosa L.	Dimiri	All parts
Ficus virens Aiton	Putkal	All parts
Gardenia latifolia Aiton	Gurdu	All parts
Lannea coromandelica (Houtt.) Merr.	Moi	Bark
Limonia acidissima L.	Kaitha	Fruits
Madhuca longifolia (L.) J.F.Macbr.	Mahula	Fruits
Mallotus philippensis (Lam.) Müll.Arg.	Sundari	Bark and branches
Mangifera indica L.	Amba	Fruits
Naringi crenulata (Roxb.) Nicolson	Bentha	Twigs
Phyllanthus emblica L.	Aonla	Fruits and twigs
Pterocarpus marsupium Roxb.	Piasala	Bark
Shorea robusta C.F.Gaertn.	Sal	Bark & Leaves
Sterculia urens Roxb.	Genduli	Bark
Tamarindus indica L.	Tentuli	Twigs
Terminalia bellirica (Gaertn.) Roxb.	Bahada	Twigs
Ziziphus rugosa Lam.	Chunkoli	Twigs and fruits

These species collectively represent an important natural food resource that supports elephant populations throughout different seasons (Table 1). The present documentation provides a scientifically validated list of native tree species that should receive priority during restoration activities. Such restoration programmes are particularly important in degraded forests and elephant corridors where food resources have diminished.

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