

A Note on *Ficus religiosa* and *Ficus benghalensis*: Socio-Cultural and Eco-Medico Aspects

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Abstract: The genus *Ficus* (family Moraceae) represents a cornerstone of tropical ecology and human culture. Among its members, *Ficus religiosa* and *Ficus benghalensis* hold unparalleled significance in the Indian subcontinent, revered for their ecological resilience, medicinal virtues, and sacred symbolism. This review highlights the socio-cultural importance and eco-medico perspectives of these two keystone species. It explores their traditional roles in Indian society, their ethnomedicinal applications, ecosystem services, and the conservation challenges they face. As living heritage symbols and bio-resource reservoirs, *Ficus religiosa* and *Ficus benghalensis* exemplify the intricate link between biodiversity and cultural identity.

Keywords: Bioactive compounds, conservation, ecology, pharmacology, socio-cultural

Introduction

The *Ficus* species are ecologically and culturally significant components of tropical and subtropical ecosystems (Yuan et al., 2024; Hossain et al., 2025). Globally, the genus comprises over 800 species (Hasnat et al., 2024), many of which act as keystone species supporting diverse faunal communities. In India, *Ficus religiosa* (L.) and *Ficus benghalensis* (L.) are the most prominent, both ecologically and culturally (Hossain et al., 2025). These trees, often found in villages, temples, and public spaces, are deeply intertwined with the spiritual and medicinal traditions of the Indian subcontinent. The ancient association of these species with religion, folklore, and traditional medicine has made them central to

human-environmental relationships. Despite modernisation and habitat changes, their ecological and socio-cultural roles remain vital. This review discusses the dual importance of eco-medico and socio-cultural aspects of *F. religiosa* and *F. benghalensis*, emphasising the need to conserve these species as both biological and cultural assets.

Methodology

This review employed an integrative and systematic approach to explore the socio-cultural and eco-medico aspects of *Ficus religiosa* and *Ficus benghalensis*. Relevant literature was collected from peer-reviewed journals, ethnobotanical surveys, pharmacological studies, books, and credible online databases, including PubMed, Scopus, Web of Science, and Google Scholar. Classical Ayurvedic texts and traditional knowledge repositories such as the AYUSH database were also consulted to include indigenous medicinal perspectives. Publications were screened for relevance, focusing on four key themes: i.e. socio-cultural significance, morphological and ecological traits, ethnomedicinal and pharmacological relevance, and conservation challenges. Only verified and scientifically supported information was included to ensure data reliability. The selected data were thematically organised and comparatively analysed to highlight similarities and distinctions between the two species. Qualitative content analysis was used for cultural and ethnobotanical aspects, while descriptive synthesis was applied to ecological and pharmacological findings. Comparative tables and conceptual infographics were developed to visualise linkages among ecological functions, medicinal values, and cultural symbolism. The integrated analysis aimed to establish a holistic understanding of *F. religiosa* and *F. benghalensis* as keystone species that bridge traditional beliefs, ecological services, and biomedical potential, reinforcing the importance of their conservation within both scientific and cultural frameworks (Kumar, 2025; Hossain et al., 2025).

Results and discussion

The review reveals that *F. religiosa* and *F. benghalensis* hold exceptional ecological, medicinal, and socio-cultural significance within the Indian subcontinent. Morphologically, both species exhibit adaptive traits such as extensive root systems, aerial prop roots, and year-round foliage that enable them to function as keystone species supporting diverse faunal communities. Ethnomedicinal documentation and pharmacological studies confirm their rich phytochemical composition, including flavonoids, tannins, sterols, and alkaloids, which contribute to antidiabetic, anti-inflammatory, antioxidant, and wound-healing properties. Socio-culturally, these trees are deeply embedded in religious and community life, symbolising longevity, wisdom, and continuity. Their association with rituals, folklore, and temple landscapes underscores their role in sustaining traditional ecological knowledge and cultural identity. Ecologically, they enhance carbon sequestration, soil fertility, and biodiversity conservation, demonstrating their multifunctional ecosystem services. However, habitat loss, urbanisation, and declining cultural practices pose threats to their persistence. The integration of scientific validation with traditional reverence is thus essential to ensure their long-term conservation. Collectively, the results emphasise that *F. religiosa* and *F. benghalensis* embody a holistic model of biocultural sustainability, linking environmental health, traditional medicine, and socio-spiritual harmony. In detail, discussed below in this review.

Morphology of *Ficus religiosa*: It is commonly known as the Sacred Fig or Peepal tree, a large deciduous tree that can reach heights of 20–30 meters with a broad, spreading crown. The tree is characterised by its distinctive heart-shaped leaves with long, tapering drip tips measuring 10–17 cm in length, which facilitate efficient water runoff during rainfall. The bark is light gray to ash-colored and smooth in young trees, becoming slightly fissured with age. The branches are widely spreading and often form a broad canopy that provides dense shade. The figs (syconia) are small, globose to ovoid, about 1-1.5 cm in diameter, green when young and turning purple or blackish upon ripening. These figs appear in leaf axils and are borne in pairs. The tree exudes a milky white latex when cut, a characteristic feature of the Moraceae family. The root system is extensive, often forming large, sturdy trunks that provide firm anchorage. *Ficus religiosa* exhibits a graceful appearance and remarkable adaptability, thriving in a variety of tropical and subtropical conditions (Table 1; Hossain et al., 2025).

Morphology of *Ficus benghalensis*: It is commonly known as the Banyan tree or Indian Fig, a large, evergreen tree that can attain immense size and age, often spreading over several hectares due to its unique aerial prop roots. The main trunk is massive, with grayish, rough bark, and gives rise to numerous aerial roots from horizontal branches, which descend to the ground and develop into additional supportive trunks, creating the impression of a small forest. The leaves are large, leathery, and elliptic to ovate, measuring 10-20 cm long, with entire margins and a glossy upper surface. The figs (syconia) are globose, about 2-3 cm in diameter, found in pairs on short stalks in the leaf axils, turning from green to reddish or purplish upon ripening. The tree produces milky latex from all parts when injured. The extensive root system, dense foliage, and massive canopy make the banyan tree one of the most majestic species in tropical Asia. Its unique morphology not only supports its longevity and ecological dominance but also makes it a natural monument of stability and endurance (Table 1; Hossain et al., 2025).

Table 1: Comparative botanical overview

Parameter	<i>Ficus religiosa</i>	<i>Ficus benghalensis</i>
Common Name	Peepal, Sacred Fig	Banyan, Indian Fig Tree
Family	Moraceae	Moraceae
Habit	Large deciduous tree	Large evergreen tree with aerial roots
Distinct Features	Cordate leaves with long drip tips	Aerial prop roots forming multiple trunks
Native Range	Indian subcontinent	Indian subcontinent
Longevity	Extremely long-lived (often >500 years)	Known for longevity and large canopy spread

Socio-Cultural Importance of *Ficus religiosa*: It is commonly known as the Peepal or Sacred Fig, and holds profound socio-cultural and spiritual significance throughout the Indian subcontinent. Revered as a sacred tree in Hinduism, Buddhism, and Jainism, it symbolises enlightenment, longevity, and the eternal cycle of life. In Hindu belief, the Peepal tree is associated with the trinity of deities Brahma (the creator), Vishnu (the preserver), and Shiva (the destroyer), representing the continuity of cosmic functions (Tiwari and Acharya, 2019). It is worshipped especially on Saturdays and during sacred observances such as *Peepal Pooja* and *Vat Purnima Vrat*, where devotees offer water, lamps, and prayers beneath its canopy to seek prosperity and spiritual liberation. In Buddhism, the tree is of monumental importance, as it is under the *Bodhi Tree* (a *Ficus religiosa*) at Bodh Gaya that Gautama Buddha attained enlightenment, making it a universal symbol of wisdom and inner awakening (Sinha, 2023). Beyond religious connotations, the Peepal tree traditionally serves as a communal meeting place in villages, providing shade, shelter, and a venue for social interaction and decision-making. Its continuous presence in cultural rituals, temple courtyards, and rural landscapes underscores its role as a living bridge between ecological sanctity and spiritual devotion, reflecting the deep reverence ancient societies held for nature as a source of both physical and moral sustenance (Hossain et al., 2025).

Socio-Cultural Importance of *Ficus benghalensis*: It is known as the Banyan or *Vat Vriksha*, which is an enduring symbol of strength, immortality, and community in Indian culture. It holds a sacred position in Hindu tradition, where it is venerated as the dwelling of divine forces and a representation of life's eternal continuity through its ever-expanding aerial roots. The banyan is central to the *Vat Savitri Vrat*, a ritual observed by married Hindu women who tie sacred threads around its trunk and pray for their husbands' longevity and family well-being, symbolising the tree's role in sustaining life and fidelity (Pandey, 2024). Culturally, the banyan tree serves as the "village guardian", a site for panchayat meetings, storytelling, meditation, and social gatherings, often situated at the heart of rural settlements or temple premises. Its vast canopy provides shade and a sense of permanence, embodying protection and wisdom. The banyan is also depicted in Indian art, literature, and folklore as a tree of life, representing the interconnectedness of all living beings. Its enduring cultural presence, spiritual symbolism, and communal value make *Ficus benghalensis* not only a sacred natural monument but also a vital social institution that unites ecological respect with cultural continuity in Indian society (Hossain et al., 2025).

Cultural Heritage and Folklore: In rural India, both species function as centres of village life. Meetings, discussions, and rituals are held under their expansive canopies (Kmail et al., 2018). Folklore often depicts them as abodes of deities or spirits, reflecting their mythological importance. Their presence in art, literature, and philosophy demonstrates their enduring cultural symbolism across generations (Hossain et al., 2025).

Ecological Significance: *F. religiosa* and *F. benghalensis* are ecologically invaluable species that play crucial roles in maintaining environmental balance and biodiversity. Both act as keystone species, providing essential resources such as fruits, nectar, and nesting sites that support a wide range of pollinators, seed dispersers, and other fauna, including birds, bats, and insects (Parbo et al., 2024). Their year-round fruiting pattern ensures food availability during lean seasons, thereby sustaining

complex ecological networks. These trees also contribute significantly to carbon sequestration and air purification, helping mitigate climate change by absorbing atmospheric carbon dioxide and filtering particulate matter. Their extensive root systems stabilise soil, prevent erosion, and enhance soil fertility through organic matter accumulation and nutrient recycling. Additionally, the broad canopies of these trees create favourable microclimates, moderating temperature, humidity, and wind conditions in both rural and urban environments. Through these multifaceted ecological functions, *Ficus religiosa* and *Ficus benghalensis* serve as natural regulators of ecosystem health and vital contributors to environmental sustainability (Figure 1; Hossain et al., 2025).

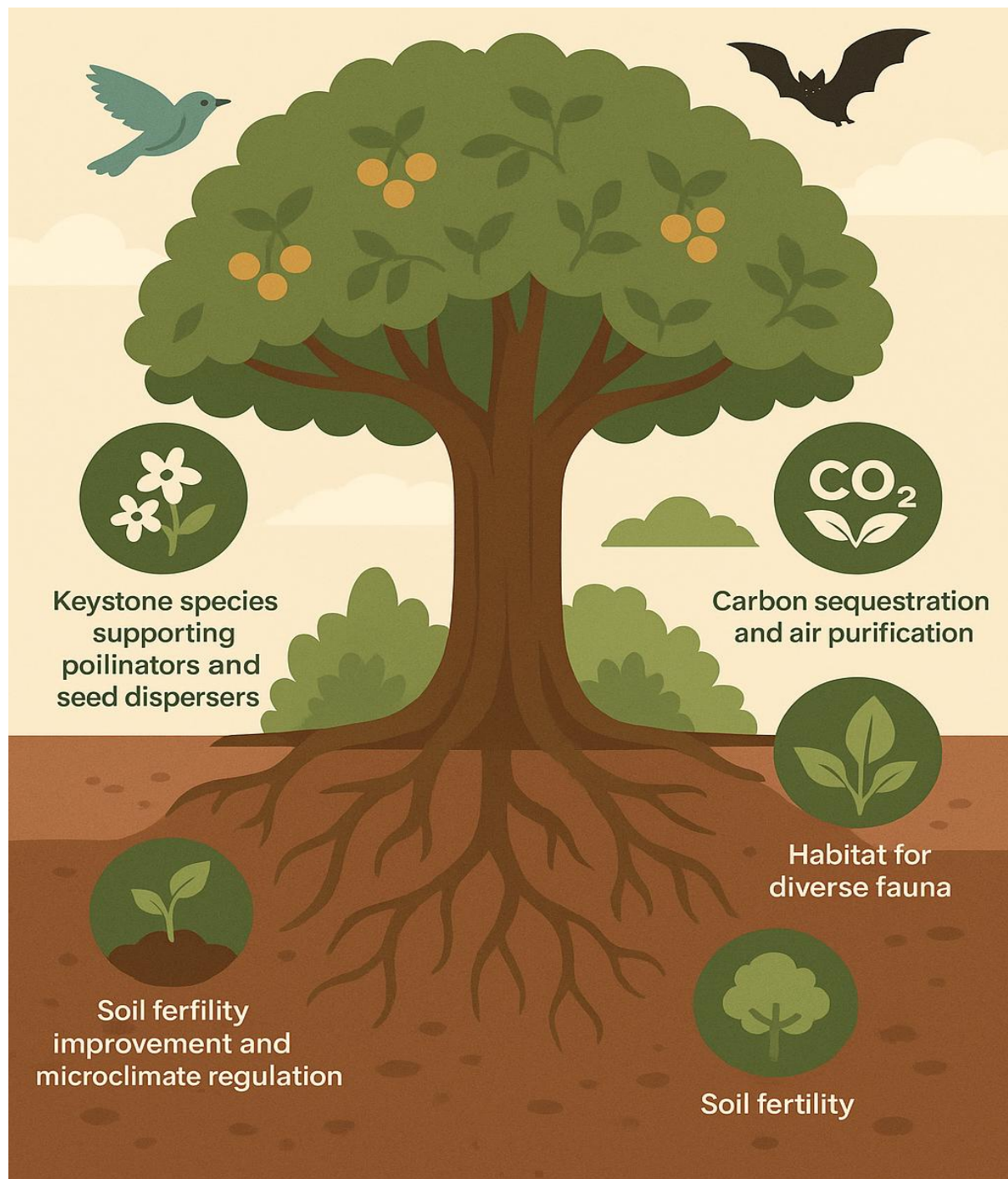


Figure 1: Ecological and environmental values

Medico-Ethnobotanical Importance of *Ficus religiosa*: *F. religiosa* holds a prominent place in traditional medicine and ethnobotanical practices across the Indian subcontinent, owing to its diverse phytochemical composition that includes flavonoids, tannins, sterols, saponins, and alkaloids (Rutuja et al., 2015). These bioactive compounds contribute to its broad pharmacological profile, making it an important source of natural remedies in Ayurveda, Siddha, and Unani systems of medicine. The bark of *Ficus religiosa* is widely used as an astringent, anti-inflammatory, and antidiabetic agent, aiding in the treatment of wounds, skin infections, and metabolic disorders (Murugesu et al., 2021). Its leaves are traditionally applied in managing asthma, skin ailments, ulcers, and constipation, either as decoctions or poultices. The fruits and latex are valued for their digestive, wound-healing, and reproductive health benefits, often prescribed to promote gastrointestinal function and fertility. This extensive traditional use, supported by modern pharmacological findings, underscores the species' significant therapeutic potential and its enduring importance in primary healthcare systems rooted in natural medicine (Hossain et al., 2025).

Medico-Ethnobotanical Importance of *Ficus benghalensis*: It is equally esteemed in traditional medicinal systems for its potent healing properties derived from a rich array of secondary metabolites such as flavonoids, tannins, saponins, sterols, and alkaloids (Singh et al., 2023). The bark of *F. benghalensis* is traditionally utilised as an astringent and antidiabetic remedy, often prescribed for the management of dysentery, inflammation, and blood sugar disorders. Its leaves are used in treating ulcers, skin diseases, and respiratory problems, reflecting its role as an accessible home-based therapeutic resource. The fruits and milky latex are applied for digestive disturbances, wound healing, and reproductive health, particularly in enhancing vitality and treating female reproductive issues (Murugesu et al., 2021). Ethnobotanical surveys across India have consistently documented its widespread medicinal applications, reinforcing its cultural and therapeutic relevance. Through the integration of traditional knowledge and modern pharmacological research, *Ficus benghalensis* continues to be recognised as a multifunctional medicinal tree of immense ecological and biomedical significance (Hossain et al., 2025).

Pharmacological Studies on *Ficus religiosa*: Modern pharmacological investigations on *Ficus religiosa* have revealed a wide spectrum of therapeutic properties that validate its traditional uses in indigenous medicine. The plant exhibits significant antidiabetic activity, primarily through modulation of glucose metabolism and enhancement of pancreatic β -cell function, helping to regulate blood sugar levels effectively (Pandit et al., 2010). Its antioxidant potential is attributed to the abundance of polyphenolic compounds, which scavenge free radicals and protect cellular structures from oxidative stress. Moreover, several anti-inflammatory and antimicrobial studies conducted both *in vitro* and *in vivo* have demonstrated that extracts from its bark, leaves, and fruits inhibit pro-inflammatory mediators and exhibit strong bactericidal and fungicidal activity (Mehnaz et al., 2025). In addition, the bark and leaf extracts possess remarkable wound-healing and cardioprotective properties, promoting tissue regeneration and maintaining cardiovascular health by reducing lipid peroxidation and improving antioxidant enzyme activity. Collectively, these findings confirm that *Ficus religiosa* is a potent source of bioactive compounds with diverse pharmacological applications (Hossain et al., 2025).

Pharmacological Studies on *Ficus benghalensis*: Similarly, *F. benghalensis* has attracted considerable attention in modern research due to its multifaceted pharmacological potential. The plant exhibits pronounced antidiabetic effects, attributed to the presence of leucocyanidin, lupeol, and other bioactive molecules that aid in glucose regulation and pancreatic protection (Singh et al., 2009). Its antioxidant activity arises from its rich content of flavonoids and phenolics, which help mitigate oxidative stress and cellular damage. The anti-inflammatory and antimicrobial activities of *F. benghalensis* have been well-documented, showing inhibition of pathogenic bacteria and reduction of inflammatory markers in experimental models (Aswar et al., 2008). Furthermore, extracts of its bark and leaves demonstrate exceptional wound-healing capabilities, accelerating epithelialization and collagen synthesis, while also exerting cardioprotective effects through the regulation of lipid profiles and prevention of oxidative cardiac damage. These studies collectively highlight the immense pharmacological significance of *Ficus benghalensis*, reaffirming its role as a valuable medicinal species with both preventive and therapeutic potential (Hossain et al., 2025).

Active Phytochemicals: Both *F. religiosa* and *F. benghalensis* are rich in diverse phytochemical constituents that contribute to their broad spectrum of pharmacological activities and traditional medicinal applications. In *F. religiosa*, major bioactive compounds such as furanocoumarins, β -sitosterol, quercetin, and tannic acid have been identified. These compounds exhibit significant antioxidant, anti-inflammatory, antimicrobial, and antidiabetic properties, supporting the plant's extensive use in traditional healing systems (Kapile et al., 2022). Similarly, *F. benghalensis* contains a distinct set of phytochemicals, including leucocyanidin, lupeol, friedelin, bergapten, and ficusin, which possess potent bioactivities such as anti-inflammatory, hepatoprotective, wound-healing, and cardioprotective effects (Sahu et al., 2024). The presence of these active constituents provides a biochemical basis for the traditional uses of both species and underscores their potential as promising candidates for the development of novel plant-based therapeutic agents (Hossain et al., 2025).

Conservation and Threats

Despite their abundance in some areas, *F. religiosa* and *F. benghalensis* face increasing threats from urbanisation, deforestation, and changing cultural values. Sacred groves that once protected them are declining. Habitat fragmentation and pollution affect their regeneration potential. Conservation strategies should integrate traditional knowledge systems with modern ecological management, protecting old sacred trees, promoting community participation, and encouraging replantation around temples and villages (Hossain et al., 2025).

Eco-Medico and Socio-Cultural Integration

The eco-medico and socio-cultural dimensions of *F. religiosa* and *F. benghalensis* are intricately intertwined, reflecting the deep interconnection between nature, health, and tradition. Ecologically, these trees act as keystone species, sustaining diverse flora and fauna, regulating microclimates, and enriching soil fertility (Sood et al., 2024). Medically, their bark, leaves, fruits, and latex serve as valuable resources in traditional and modern pharmacology, offering remedies for ailments such as diabetes, inflammation, and respiratory disorders (Murugesu et al., 2021). Culturally, their sacred status within Hinduism, Buddhism, and Jainism promotes reverence and passive conservation, ensuring their

persistence across generations. The worship and protection of these trees not only uphold spiritual beliefs but also contribute to environmental stability and public health (Sood et al., 2024). Thus, *F. religiosa* and *F. benghalensis* exemplify how ecological services, medicinal benefits, and cultural traditions converge into a unified system of sustainability where preserving nature becomes both a spiritual duty and a pragmatic approach to ecological and human well-being (Figure 2).

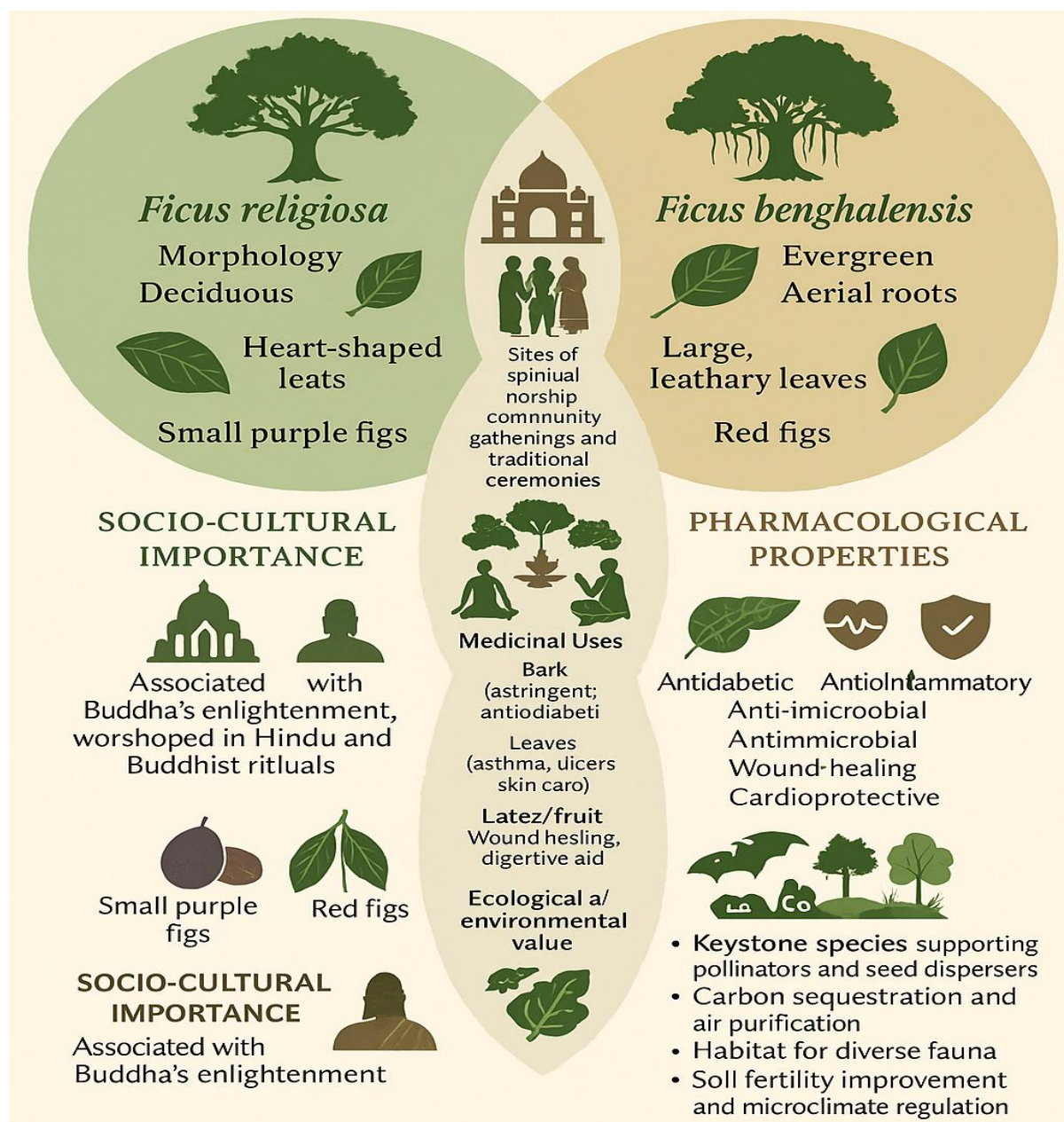


Figure 2: Integrated depiction of socio-cultural, ecological, and medico-ethnobotanical importance of *Ficus religiosa* and *Ficus benghalensis*

Future perspectives

Future research on *F. religiosa* and *F. benghalensis* should adopt an interdisciplinary approach that integrates molecular biology, ethnobotany, and ecology. Detailed molecular characterisation and metabolomic profiling of their bioactive compounds are essential to uncover the full therapeutic potential

and biochemical diversity of these sacred trees. Equally important is the socio-ecological valuation of *Ficus* species within ecosystem service frameworks, which would help quantify their roles in carbon sequestration, biodiversity maintenance, and cultural well-being. Developing community-based conservation models that harmonise traditional reverence with modern scientific management can ensure long-term sustainability. Bridging indigenous knowledge with scientific validation will not only preserve these keystone species but also reinforce their significance as vital components of India's biocultural heritage and sustainable healthcare traditions.

Conclusion

This review highlights the significance of *Ficus religiosa* and *Ficus benghalensis* as ecological keystones and cultural icons that bridge biodiversity, traditional medicine, and spiritual heritage. Synthesising evidence from ethnobotanical, pharmacological, and ecological studies, the findings confirm that both species harbour diverse bioactive compounds with validated therapeutic properties, particularly antidiabetic, antioxidant, and anti-inflammatory effects, supporting their longstanding use in traditional healthcare systems. Ecologically, their structural complexity and year-round fruiting sustain wide faunal diversity and contribute to carbon sequestration, soil enrichment, and microclimate regulation. Culturally, their sacred symbolism and continued presence in rituals, folklore, and community spaces reinforce human–nature interdependence. The integrated analysis highlights that preserving these species is not only vital for ecological balance and public health but also for maintaining India's biocultural heritage. Future research integrating molecular phytochemistry, ecosystem service valuation, and community-based conservation can transform these sacred trees into models of sustainable resource management where ecological resilience, medicinal potential, and cultural continuity converge within a unified scientific and ethical framework.

References

- Aswar M, Aswar U, Wagh A, Watkar B, Vyas M and Gujar KN. (2008). Antimicrobial activity of *Ficus benghalensis*. *Pharmacologyonline*. 2: 715-725
- Hasnat H, Alam S, Akter Shompa S, Saha T, Richi FT, Hossain MH, Zaman A, Zeng C, Shao C, Wang S, Geng P and Al Mamun A. (2024). Phyto-pharmacological wonders of genus *Ficus*: Ethnopharmacological insights and phytochemical treasures from natural products. *Saudi Pharmaceutical Journal*. 32(12): 102211. doi: 10.1016/j.jsps.2024.102211.
- Hossain E, Marndi S, Kumar R and Kumar S. (2025). Banyan family - medicinal, pharmacological and economical aspects. Ambika Prasad Research Foundation, Odisha, India.
- Kapile C, Kulkarni A, Pardeshi P, Sayed A and Nehe A. (2022). *Ficus religiosa*: A beneficial medicinal plant. *Journal of Drug Delivery and Therapeutics*. 12(2-s):210-218 doi: <http://dx.doi.org/10.22270/jddt.v12i2-s.5434>.
- Kmail A, Asif F, Rahman R, Nisar S and Jilani MI. (2018). Banyan tree-the sacred medicinal tree with potential health and pharmacological benefits. *International Journal of Chemical and Biochemical Sciences*. 13: 52-57.

- Kumar S. (2025). Data collection from literature for biological sciences, medicinal plants research, ethnobotany, and pharmacology: a methodological overview. *Journal of Biodiversity and Conservation*. 9(2): 167-169.
- Mehnaz S, Nazmul Hasan AHM, Ahmed S, Akanda MKM and Hamiduzzaman M. (2025). In vitro and in vivo evaluation of *Ficus religiosa* stem bark extracts, including antioxidant, anti-inflammatory, antimicrobial, antidiarrheal, and antipyretic activities. *Journal of Herbmed Pharmacology*. 14(4): 426-434. doi: 10.34172/jhp.2025.52927.
- Murugesu S, Selamat J and Perumal V. (2021). Phytochemistry, pharmacological properties, and recent applications of *Ficus benghalensis* and *Ficus religiosa*. *Plants*. 10(12): 2749. doi: 10.3390/plants10122749.
- Pandey S. (2024). Sati, Women, and Narratives Transcendental congruence in the tales of Savitri and Satyavanand the Bihula-Bishahri Gatha. *Sampratyaya*. 1(2): 107-117. doi: 10.21276/smp.202412.12.a9.
- Pandit R, Phadke A and Jagtap A. (2010). Antidiabetic effect of *Ficus religiosa* extract in streptozotocin-induced diabetic rats. *Journal of Ethnopharmacology*. 128(2): 462-466. doi: 10.1016/j.jep.2010.01.025.
- Parbo D, Kumar A, Devi A, Sethy J, Zest YR and Basnett R. (2024). Diversity of Fig species and their ecological services in Pakke Wildlife Sanctuary, Arunachal Pradesh, India. *Journal of Wildlife and Biodiversity*. 8(2): 55-80. Doi: 10.5281/zenodo.10938700.
- Rutuja RS, Shivsharan U and Shruti AM. (2015). *Ficus religiosa* (Peepal): a phytochemical and pharmacological review. *International Journal of Pharmaceutical and Chemical Sciences*. 4(3): 360-370.
- Sahu AK, Dinesh D, Verma VK, Prajapati V, Bhatia J and Arya DS. (2024). Therapeutic potential of *Ficus benghalensis* in thromboembolic disorders. *Journal of Ayurveda and Integrative Medicine*. 15(4): 100929. doi: 10.1016/j.jaim.2024.100929.
- Singh P, Dhankhar J, Kapoor RK, Kumar D, Bhatia S, Al-Harrasi A and Sharma A. (2023). *Ficus benghalensis*-A comprehensive review on pharmacological research, nanotechnological applications, and patents. *Journal of Applied Pharmaceutical Science*. 13(10): 59-82. doi: 10.7324/JAPS.2023.134426.
- Singh RK, Mehta S, Jaiswal D, Rai PK and Watal G. (2009). Antidiabetic effect of *Ficus bengalensis* aerial roots in experimental animals. *Journal of Ethnopharmacology*. 123(1): 110-114. doi: 10.1016/j.jep.2009.02.017.
- Sinha M. (2023). The Bodhi Tree - tracing a living religious, spiritual and cultural heritage. *International Journal of Social Sciences and Humanities*. 6(1): 24-36.

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- Sood Y, Lal M, Rattan I and Walia V. (2024). Sanctified trees (*Ficus religiosa* and *Ficus benghalensis*) in India: a significance and analogous mythology. International Journal of Plant & Soil Science. 36(10): 199-207. doi: 10.9734/ijpss/2024/v36i105067.
- Tiwari S and Acharya V. (2019). Sacred trees of Raipur city. International Journal of Life Sciences Research. 7(2): 119-128.
- Yuan S, Yin T, He H, Liu X, Long X, Dong P and Zhu Z. (2024). Phenotypic, metabolic and genetic adaptations of the *Ficus* species to abiotic stress response: a comprehensive review. International Journal of Molecular Sciences. 25(17): 9520. doi: 10.3390/ijms25179520.