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Symbolism, Ritual, and Ecology: An Interdisciplinary Study of the Twelve Rasi Trees in Telugu Tradition

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Abstract

The Rasi Vanam system represents an indigenous knowledge tradition integrating Vedic cosmology, Jyotisha (astrology), sacred ecology, and ethnobotanical wisdom through the association of twelve specific trees with the twelve zodiac signs. Although widely practiced in South India, especially in Andhra Pradesh and Telangana, its academic documentation remains limited. This review examines the philosophical foundation, cultural practice, ethnomedicinal relevance, astrological symbolism, ecological significance, and conservation implications of the Rasi Vanam tradition using an interdisciplinary, narrative review approach. Findings reveal that while the system is deeply rooted in cultural continuity and symbolic ecology, there is limited canonical textual evidence directly pairing each zodiac sign with a specific tree. The spiritual–ecological framework indicates the potential role of Rasi Vanam in biodiversity restoration, traditional ecological knowledge (TEK) preservation, and community-based conservation models. Research gaps, ethical considerations, and future academic directions are presented to facilitate scholarly dialogue and policy-based applications.

Keywords: Rasi Vanam, Jyotiṣa, Vṛkṣayurveda, Telugu culture, sacred trees, ecological astrology

1. Introduction

Sacred groves across India represent indigenous socio-ecological heritage where cultural beliefs reinforce biodiversity conservation (Gadgil & Vartak, 1976). Among these traditions, Rasi Vanam—a system linking zodiac signs (Rasi) to specific trees (Vṛukṣa)—is a distinctive knowledge framework blending astrology, ecology, plant science, and devotional praxis particularly sustained in Andhra Pradesh and Telangana. The underlying premise, rooted in cosmological and elemental resonance theories, is that every zodiac sign

embodies planetary energies that can be harmonized by nurturing a corresponding plant species (Mohanapriya & Suriya, 2025).

Although the system is gaining renewed attention through temple complexes, forest department initiatives, and ecotourism parks, the academic documentation of its epistemology, cultural evolution, and ethnomedical validity remains fragmentary. Existing literature mentions sacred trees, Nakshatra Vanams, and ritual botany, but a consolidated scientific, ethnographic, and ecological analysis of the twelve Rasi-linked trees remains largely unexplored.

2.Methodology

The study adopted a qualitative and multidisciplinary research design that integrated textual exegesis, field ethnography, and comparative analysis. Data were drawn from multiple sources, including secondary translations of classical texts such as the Bṛhat Saṃhita, Vṛkṣayurveda, and Manu Saṃhita, which provided insights into ancient notions of tree sanctity. Field observations were conducted at Rasi Vanam installations in Mahavir Harina Vanasthali National Park (Telangana, 2024) and at selected temple groves in the East Godavari district. Supplementary digital data were obtained from open-access archives such as Google Scholar, WisdomLib, and PMC using search terms like "Rasi Vanam," "Vṛkṣayurveda and environmental philosophy," (Rananavare, 2024) and "Telugu sacred groves." Additionally, twelve semi-structured oral interviews were carried out with temple priests (archakas) and local forest officials to understand contemporary ritual and ecological practices associated with sacred trees. The analytical approach combined hermeneutic textual interpretation, symbolic-astrological mapping, and thematic coding. Vedic and post-Vedic verses referencing tree sanctity were interpreted through a hermeneutic lens to identify layers of ecological symbolism. Planetary attributes were correlated with specific botanical traits to reconstruct the symbolic logic behind Rasi Vanam associations. Interview data were thematically coded to extract recurring ritual, ecological, and astrological motifs. However, it must be acknowledged that direct Sanskrit slokas explicitly pairing each zodiac sign (Rasi) with its corresponding tree are absent in extant canonical sources. Consequently, the interpretative framework relies on folk continuity, regional traditions, and analogical references from secondary scriptural materials.

3.Results And Discussion

3.1 Vedic and Jyotiṣa Significance

Vedic cosmology views trees as living conduits of praṇa (life-force). The Taittiriya Saṃhita 4.1.10 and Atharva Veda 5.30 honor vanaspati as divine embodiments. Vṛikṣayurveda details botanical healing correlating with planetary influence, a foundation later integrated into Jyotiṣa remedies. Each Rasi corresponds to a planetary ruler whose elemental signature resonates with a tree's morphology and pharmacology. For example, Pterocarpus santalinus (Erra Chandana) embodies Mars's red vitality; Ficus religiosa (Raavi) mirrors the solar radiance and wisdom of Jupiter. Thus, nurturing one's Rasi tree serves as a karmic harmonizer, mitigating malefic influences (graha doṣa) and enhancing auspicious vibrations.

3.2. Ethnobotanical and Pharmacological Case Studies (Mesha to Kanya)

The selection of each tree exhibits a profound knowledge of the plant's physical properties and medicinal chemistry, which astrologically corresponds to the native's personality traits, health challenges, or life themes governed by the ruling planet.

Mesha (Aries) – Pterocarpus santalinus (Red Sandalwood)

Mesha (Aries), ruled by Mars, is astrologically associated with vitality, courage, and a blood-red complexion

(Raman, 2025). Mars governs blood and inflammatory processes in Ayurvedic pathology. Appropriately, the heartwood of P. santalinus has been prescribed since time immemorial in traditional and Ayurvedic systems for the mitigation of inflammatory disorders (Dahat, et al., 2021). The ritual practice—offering red flowers and tying a red thread on the native's Rasi day—reinforces the Mars-red color resonance, aiming to channel the planet's vital energy.

However, the traditional application of this tree presents a significant contemporary policy conflict: the species most strongly linked to protection and vitality is now one of the most critically threatened in India. P. santalinus is classified as Endangered by the IUCN, primarily due to intense illegal timber extraction driven by high international demand (Noorunnisa Begum et al., 2019). The act of planting this Rasi Vriksha, once a simple devotional practice, is now elevated to a crucial act of conservation, directly challenging economic exploitation pressures.

Vrishabha (Taurus) – Alstonia scholaris (Blackboard Tree)

Vrishabha (Taurus) is ruled by Venus, correlating with themes of material abundance, stable harmony, and knowledge acquisition (Chatterji, 2024). The chosen tree, Alstonia scholaris, is widely known as the Blackboard Tree or Scholar Tree. Its Venusian connection extends beyond aesthetics to holistic health. This species is significant in Ayurveda, noted for its febrifuge, anti-malarial, anti-diabetic, and hepatoprotective properties, and is a key ingredient in the effective herbal formulation Ayush-64 (Pandey et al., 2020). The ritual focuses on meditation for harmony and the offering of white flowers on Venus-favorable days (Friday). This demonstrates a functional alignment where the Venusian quality of stable accumulation is channeled into both intellectual pursuit (knowledge, hence 'Scholar Tree') and sustained physical well-being (health maintenance), reinforcing a harmonious and abundant life.

Mithuna (Gemini) – Artocarpus heterophyllus (Jackfruit)

Mithuna (Gemini), governed by Mercury, signifies intellectual agility, communication, and curiosity (Chatterji, 2024). The corresponding tree is Artocarpus heterophyllus (Jackfruit). Ritual practices include planting the tree when a child is born and using the fruit as an offering to signify knowledge. The tree itself displays a symbolic correlation with the Gemini intellect: the Jackfruit is often described as having a challenging, spiky, or uninviting exterior that encases a highly complex, multiple-segmented, and nutritious interior. This duality mirrors the Mercurial nature of Gemini—an affinity for analyzing complex systems and uncovering profound knowledge concealed beneath superficial appearances. Medicinally, the Jackfruit possesses significant anti-bacterial, anti-fungal, anti-malarial, and anti-cancerous properties, with its root used traditionally to treat asthma and fever (Krupa, et al., 2020).

Karkataka (Cancer) – Butea monosperma (Flame of the Forest)

Karkataka (Cancer) is ruled by the Moon, representing emotional sensitivity, purity, and the need for stability and shelter (Greene & Sasportas, 1992). The ritual, appropriately lunar, involves evening watering and the offering of white/moon-colored thread to promote emotional stability. This apparent contradiction between the cool, watery Moon (Cancer) and the fiery nature of the tree is resolved through its subtle properties recognized in Ayurveda. The medicinal applications, which include treating various internal disorders and its role as a key alkali-yielding plant, prioritize the tree's purifying and cooling essence over its fiery aesthetic (Hiremath, et al., 2024).

Simha (Leo) – Ficus religiosa (Peepal Tree)

Simha (Leo) is ruled by the Sun, symbolizing power, authority, and life force. The designated tree is Ficus religiosa (Peepal or Sacred Fig). This pairing exemplifies dual supremacy: the Sun is the "King of Planets,"

and F. religiosa is revered as the "King of Trees" (Vriksha Rajaya Namah), under which Buddha attained enlightenment and Sadhus meditate. The worship is specifically prescribed for Sunday, the Sun's day, involving the lighting of a lamp and the offering of bright red or orange flowers. The ritualistic mandate of 7 circumambulations (7x Pradakshina) is a cosmological anchor, aligning perfectly with the prescribed number of circuits for the Sun (Surya) in traditional Hindu practice. This pairing is the most intensely ritualized of the zodiac trees, signifying supreme physical vitality and spiritual authority.

Kanya (Virgo) – Mangifera indica (Mango Tree)

Kanya (Virgo) is governed by Mercury, embodying themes of purity, detailed service, and holistic health management (Pant, 2024). The tree, Mangifera indica (Mango), aligns with this pragmatic focus. Rituals emphasize planting a sapling for a newborn and using the leaves and fruit in puja (worship). The Mango tree's connection to Virgo is defined by its comprehensive utility and healing properties. Pharmacological research highlights the tree's rich content of the polyphenolic antioxidant, mangiferin, which possesses significant anti-inflammatory, anti-cancer, hepatoprotective, and immunomodulatory activities. The tree provides full-spectrum medicinal value, from bark used for rheumatism to leaves inhaled for throat affections.

Tula (Libra) – Mimusops elengei (Bakula)

Tula (Libra), ruled by Venus, seeks balance, beauty, and refinement. The Mimusops elengei embodies this harmony. It is renowned for its intensely fragrant white flowers, which are highly valued in devotional practices. The ritual involves morning meditation under the tree for harmony, linking the tree's serene, aesthetic presence to internal balance. Ethnobotanically, the tree is defined by a dichotomy of soft beauty (fragrant flowers) and structural stability. Medicinally, its astringent properties make it invaluable in Ayurveda for oral care and dental health. The Libra mandate for symmetry is thus fulfilled by the perfect combination of aesthetic appeal, physical durability, and medicinal efficacy in promoting internal balance.

Vrishchika (Scorpio) – Acacia catechu (Katha)

Vrishchika , ruled by Mars and Ketu, governs intensity, transformation, and deep austerity. The tree, Acacia catechu (Khadira), is highly relevant to this sign's nature. Khadira wood is extensively utilized in Dharmashastra rituals for sacrificial fire and for rites aimed at promoting longevity (Chi, 2024).The ritual practice for Scorpio involves sitting under the tree for austerity, often draping it with red or black cloth. Its ritual application in fire and its association with longevity reflects the transformative process, where intense discipline and self-control are employed to overcome fundamental life challenges (mortality), embodying the Vrishchika theme of deep renewal.

Dhanus (Sagittarius) – Ficus religiosa (Peepal Tree)

Dhanus is ruled by Jupiter, the planet of wisdom, teachers, and expansion (Bhat, 2013). The Rasi Vriksha is again Ficus religiosa (Peepal), shared with Simha (Leo). This repetition underscores the system's capacity for functional differentiation. This is evidenced by the ritual practice specific to Sagittarius: worship for teacher-blessings and wisdom, involving the offering of yellow flowers on Thursdays (Jupiter's day).

Makara (Capricorn) – Dalbergia latifolia (Blackwood)

Makara is ruled by Saturn, the planet associated with discipline, structure, resilience, and patience. The corresponding tree, Dalbergia latifolia (Blackwood/Sheesham), is a highly durable hardwood, globally prized for its strength and resilience in construction and furniture. The Saturnian influence often manifests as delays and obstacles, necessitating endurance (Jha, & Shrestha, 2025).The tree perfectly embodies this

resilience, serving as a natural metaphor for the Capricorn native's ability to withstand pressure and build enduring, high-quality structures in life. The ritual involves planting the durable wood and sitting under the tree for resilience, often offering black sesame on Saturday (Saturn's day). The tree symbolizes steadfastness, directly addressing the core character trait mandated by Saturn.

Kumbha (Aquarius) – Prosopis cineraria (Jammi Chettu)

Kumbha (Aquarius) is ruled by Saturn and Rahu, governing themes of communal structures, protection, and breaking boundaries (Trivedi, P. (2003). The tree, Prosopis cineraria (Shami or Jammi Chettu), is traditionally associated with Saturn. This species is crucial for environmental resilience in arid environments due to its drought resistance. The most compelling linkage is the ritual association with Dussehra (Vijaya Dashami), the festival celebrating victory, during which devotees visit the Jammi tree. This connection stems from mythological narratives where protective power is conferred through this tree, such as the Pandavas hiding their weapons in a Prosopis cineraria before achieving victory. The tree thus symbolizes collective protection and success against daunting odds, aligning with the Saturn/Rahu theme of communal resilience and triumphant survival.

Meena (Pisces) – Ficus benghalensis (Banyan Tree)

Meena (Pisces), the final sign, is ruled by Jupiter (wisdom) and often associated with Neptune (spirituality, water), correlating with themes of compassion, shelter, and moksha (liberation). The Ficus benghalensis (Banyan Tree) is the chosen species. This monumental tree, famous for its aerial roots that grow into new trunks, symbolizes longevity, eternal life, and spiritual sanctuary. Its vast, sprawling structure provides ultimate shelter and symbolizes spiritual expansion, aligning perfectly with the highest Piscean ideals. Worship is prescribed on Friday afternoon, involving incense and sitting for meditation. The Banyan tree, historically one of the widest trees in the world, represents the spiritual destination of life—a sanctuary for contemplation and liberation (Bhawuk, 2011).

3.3 Rasi Vanam: Bridging Culture and Biodiversity Management

Telugu ritual manuals and oral customs describe specific worship modes: cleansing the base, applying turmeric-kumkum, offering water and flowers on planetary weekdays (e.g., Friday for Venus-ruled Rasis), lighting a diya, tying a thread, and circumambulating thrice. Annual events like Ugadi (Telugu New Year) and Vijayadasami include community tree offerings—Jammi Pūja for Saturn-linked signs exemplifies continuity of eco-ritualism. Such acts function not only as santi rites but also as participatory conservation: households maintain the tree as a living deity, integrating ecology into daily spirituality.

Rasi Vanam represents an indigenous model of "astro-ecological design." Its circular layout mirrors the zodiacal mandala, emphasizing balance between cosmic and terrestrial systems. In Telangana's forest-department initiative (2020 onwards), Rasi groves aid biodiversity while revitalizing public interest in traditional knowledge. This aligns with United Nations' Sustainable Development Goal 15 (Life on Land), demonstrating how heritage cosmology can support modern sustainability paradigms.

The Rasi Vriksha system offers a unique framework for contemporary biodiversity conservation by transforming spiritual reverence into tangible ecological action. The contemporary establishment of Rasi Vanam gardens demonstrates a critical modern adaptation of these traditional lists. Projects like the Eco Tourism Park at the Botanical Gardens in Kondapur, Hyderabad, are designed specifically to display these sacred plantings with educational boards, promoting their importance to visitors (Table 1). By institutionalizing the planting of these 12 species, local communities and conservation bodies are actively engaged in propagating indigenous and medicinal flora. This process ensures the preservation of Traditional

Ecological Knowledge (TEK) by translating esoteric astrological wisdom into accessible, scalable, and reproducible ecological projects.

3.4 The Economics of the Sacred: Challenges and Tensions

A core policy challenge arises from the high economic value of several Rasi Vriksha species. The Mesha tree, Pterocarpus santalinus (Red Sandalwood), is the most pressing case, being classified as Endangered. Its high value and demand have fueled habitat loss and illegal logging, creating intense pressure on its natural populations. Similarly, Dalbergia latifolia (Makara), prized for its durable timber, faces vulnerability due to overexploitation. This tension between the spiritual demand for the trees (planting for ritual) and the global economic demand for their wood necessitates immediate policy intervention.

To reconcile this conflict, the spiritual mandate, such as the traditional act of planting when a child is born, must be integrated into broader sustainable forestry policies. Promoting the cultivation of high-value endangered species like Red Sandalwood in managed plantations and agroforestry systems can restore degraded lands and satisfy demand while relieving pressure on fragile wild populations. The cultural significance of these trees thus provides a powerful, non-secular justification for conservation funding and community engagement in reforestation efforts.

Table 1: Known rituals of Rasi vanam

S. No	Rasi (Zodiac)	Tree (Botanical)	Telugu Name	Known Ritual/Traditional Practice
1	Mesha (Aries)	*Pterocarpus santalinus*	Erra Chandana	Planting and offering for Mars influence; on your Rasi day water & offer red flowers, tie red thread around tree, circumambulate 3 ×.
2	Vrishabha (Taurus)	*Alstonia scholaris*	Edakulapala chettu	On Venus-favorable days (Friday) offer white flowers; sit under tree for meditation, link with abundance and harmony.
4	Karkataka (Cancer)	*Butea monosperma*	Moduga/Palasa	Moon-related; evening watering and white flower offering, tie moon-colored thread (silver/white), meditate under tree for emotional stability.
5	Simha (Leo)	*Ficus religiosa*	Raavi	Sun-ruled; Sunday worship of Peepal tree. Offer bright orange/yellow flowers, light diya at base, circumambulate 7 ×; ideally in temple precinct.
6	Kanya (Virgo)	*Mangifera indica*	Mamidi	Mercury-link for purity and service. Plant mango sapling for newborn; use leaves in puja; offering fruit to deity.
7	Tula (Libra)	*Mimusops elengei*	Bakula/Pogada)	Venus-related balance and beauty. Use fragrant flowers in puja, morning meditation under tree for harmony.
8	Vrishchika (Scorpio)	*Acacia catechu*	Katha/Khadira	Mars-water sign. On red/black cloth drape, offer red flowers, tie red thread; sits for austerity and transformation under tree.

9	Dhanus (Sagittarius)	*Ficus religiosa*	Raavi	Jupiter-ruled. Plant or worship Peepal tree for teacher-blessings, wisdom, expansion. On Thursdays offer yellow flowers.
10	Makara (Capricorn)	*Dalbergia latifolia*	Sheesham)	Saturn-influence: plant this durable hardwood; Wednesday/ Saturday morning offering of black sesame & light. Sit under tree for resilience.
11	Kumbha (Aquarius)	*Prosopis cineraria*	Jammi Chettu	Saturn/Aquarius theme—on Dussehra (Vijaya Dashami) visit Jammi tree, tie thread, offer fruits; symbol of protection and victory.
12	Meena (Pisces)	*Ficus benghalensis*	Marri	Jupiter/Water sign: Banyan tree worship on Friday afternoon; offer incense, sit for meditation; symbol of shelter and moksha.

3.5 Recalibrating Human-Nature Symbiosis

The analysis confirms that the Rasi Vriksha system is a holistic, multi-layered knowledge system that seamlessly integrates cosmological principles, precise ritual mechanics, and empirical ethnobotany. The selection of the twelve species is consistently reinforced by scientific observations: the planet governing energy and blood (Mars/Mesha) is associated with a tree used for anti-inflammatory disorders (P. santalinus); the planet governing endurance (Saturn/Makara) is associated with a tree defined by its durability (D. latifolia); and the planetary association is physically manifested in ritual practices like the 7x circumambulation required for the Sun-ruled Ficus religiosa.

The traditional wisdom embedded in the Rasi Vriksha system offers a powerful, culturally salient framework for environmental engagement in contemporary India. By leveraging spiritual devotion to promote the planting and protection of specific indigenous trees, the Rasi Vanam movement actively contributes to biodiversity management and the institutional preservation of medicinal knowledge. Policy efforts must therefore prioritize the conservation of endangered species within this context, particularly Pterocarpus santalinus, by supporting community-led cultivation programs that transform spiritual adherence into a sustainable, viable forestry model. The system ultimately serves to recalibrate the human-nature relationship, demonstrating that cosmological harmony and ecological health are fundamentally interdependent.

4.Conclusion

The Rasi Vanam system emerges as an indigenous astro-ecological conservation model rooted in Vedic symbolism, ritual ecology, and ethnobotanical wisdom. The study highlights the philosophical, medicinal, ecological, and cultural justification for the continued preservation of sacred trees associated with zodiac signs. Integrating Rasi Vanams into school curricula, temple land-use plans, eco-parks, and agroforestry policies can significantly enhance cultural resilience and biodiversity conservation. Further interdisciplinary research combining philology, anthropology, phytochemistry, conservation biology, and planetary symbolism is essential to scientifically validate, preserve, and globalize this unique Indian knowledge system.

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