

Systematic Botanical Study of Nakshatra Flora

Dr. Lakshmi S. Pillai

Assistant Professor, Department of Botany, NSS College, Pandalam, Affiliated to University of Kerala

ABSTRACT

The whole world is a manifestation of five elements or Panchatatwa viz, Earth, Water, Fire, Air and Space. The Akashtatwa or space element works in higher dimensions of life, whereas the other four basic elements are of great utility in day to day life. Both the subjects Vedic Jyotish and Sthapatya Ved are primarily based on these five elements, Astronomy and Nature Sciences. As such our Rasis have formulated rules and practices to take care of 'Prakriti' or Environment. Planets, Sun, Moon, Earth, Rashi, Trees, Herbs, Animals, Food, Traditions and Festivals etc., have been incorporated to Faith, Religion, Environment and Ecological balance. As per Vedic Jyotisha, a person can become free of ailments, physical, social and economic problems by planting a plant or tree as per the native's birth Nakshatra (constellation). This is perhaps one of the reasons why our ancestors considered trees as equivalent to gods and goddesses and revered them as divine elements. Worshipping the tree or plant as per the native's Nakshatra provides one with the highest merit. Watering the particular tree and/or plant regularly by natives, circumambulating few times around it and worshipping it fulfils all wishes and removes all the impediments of life. There are mantras to be recited while worshipping each tree. The idea behind this benediction was that if anything is worshipped then it is not possible to cause any harm to it. The present work deals with the study on 27 plant species associated with the 27 nakshatras. The study includes the botanical name, local name, family, morphological characters of the 27 nakshatra plants.

Keywords: Nakshatra, morphology, Planets, Rashi, Astronomy, Environment

INTRODUCTION

In our society all the ceremonies beginning from the birth to death are celebrated after consulting religious almanac. The advice of an astrologer is sought on various occasions such as Naming ceremony, Wearing sacred thread, marriage, Baby-shower, Land Reverence, Laying of foundation stone ceremony or entering a new House, ceremony performed before occupying a new dwelling, Journey of a long distance, commencing of business /profession etc. We have a tradition to consult the auspicious day, time moments minutely before starting any occasion/ ceremony. It is clearly seen that there is a great impact of plants, states of planets at the time of birth on the horoscope and constellations at the time of ceremony in our routine life. In astrology it is clarified that the person can be free from depression, sickness, physical-social-economical-mental- or supernatural troulbers by planting a tree relevant to the constellation existing at the time of his /her birth (Tolu, 2008). This is only the reason why our ancestors have revered the trees as Gods and placed them equivalent to the divine elements. For this purpose a specific structure had been prepared for devotees to worship a worth –worshipping tree/plant according to the status of divine constellation at the time of birth of a person. According to constellation, human being is always dominated by the presence of Sun, Moon and other planetary

structures. The purchasing power of Gems is too costly for poor. Since ancient times, plants were considered invaluable to Gems/Pearls (Ruthesh and Patel, 2014).

Tribal inhabiting in Forests are “Nature lovers” and use plants in various forms and ways. They believe that the dominance of weak and obstacle causing factors can be minimized by wearing or wrapping plants or their parts around their body. So certain plant species associated with the constellation are believed to have medicinal properties for treating the various diseases (Reddy et al., 2010).

Nakshatra plants are those plants which are recommended as per the ruling god of a particular nakshatra and there are already mentioned in Indian Vedas. Nakshatra lord has prime importance in astrology it is a factor that can be missed and even surpass exaltation, debilitation etc. which are the most commonly refused things in astrology (Mahajan et al., 2015).

Plants maintain the atmosphere; they produce oxygen and absorb carbon dioxide during photosynthesis. Oxygen is essential for cellular respiration for all aerobic organisms. It also maintains the ozone layer that helps protect earth's life from damaging UV radiations. We obviously can't live without plants (Nadkarni, 1976). The concept of adoption of a plant is been derived from Indian cultural history. The Indian Astrology is based on the concept of Nakshatras and Rashis. According to which every human being is born in a particular Nakshatra and based on this, his/her planetary positions suits a particular type of plant according to their horoscope and place of residence. Each plant has their own aura level which encompasses the area in which they are planted and it gives the positive effect on the nature of human being (Ruthesh and Patel, 2014). This increases the positive energy level of that place and gives the vastu balancing effect of that place.

Astrologers believe that each constellation of the zodiac is associated with a tree. A Nakshatra garden can be created where trees associated constellations or Nakshatras have been planted. These trees are of medicinal, social, aesthetic or economic value. There are in all 27 Nakshatras present in a year and every individual has a Nakshatra. Every Nakshatra has a symbolic tree or plant that defines its connection with eternal nature. In our Indian culture there was a tradition that whenever a baby is born in someone's home, that person was supposed to plant a tree of the same Nakshatra on which the baby was born. The person was supposed to take care of the tree as his child because it was believed that the more good and healthy the tree will grow, it will prosper more health and happiness to the child. So the presence of the complete set of 27 trees directly create a healthy and sound physical, mental, psychological and spiritual being which is the ultimate and absolute bliss to oneself and to the earth too (Mahajan et al., 2015). If there are trees assigned to the 27 nakshatra by the Vedic rishis, than it will be worthwhile for us to know which trees belongs to our Janma nakshatra (Birth constellation) and also to have some idea about its medicinal values or other application.

MATERIALS AND METHODS

The 27 plants selected for the present study were collected from different places such as Pandalam, Mavelikara, Harippad, Oachira, Kulanada, Chengannur, Thiruvalla, Adoor and Kottarakara. Their voucher specimens have been deposited in herbarium. Dissection microscope, needle, brush, scalpel, slides were the other materials used for the present study. Morphological characters were studied by collecting and observing the twigs of the selected plants. The twigs were detached from the plants using a knife and brought to the laboratory for study. The morphological details were studied using a dissection microscope and the characters were noted.

RESULTS & DISCUSSION

1. STRYCHNOS NUX-VOMICA (Star- Aswathi)

Family	: Loganiaceae
Common Name	: Poison nut
Habit	: Medium sized, deciduous tree with fairly straight and cylindrical ball
Root	: Aerial root system
Stem	: Dark grey or yellowish grey bark with minute tubercles
Leaves	: Simple, ovate, opposite, 2-3.5 inches in size, estipulate
Inflorescence	: sessile cyme
Flower	: White or greenish, white and Fragrant
Calyx	: 4 lobed, pubescent, small, about 1mm in size
Corolla	: Cylindrical, greenish yellow inside and slightly hairy near the base
Androecium	: Stamens are 4 in number and sessile
Gynoecium	: ovary 2-celled, many ovules
Fruit	: Indehiscent berry, 3-5 cm in diameter thick shield, yellowish orange or red
Seed	: 3 or 4, orbicular, flat, shiny, greenish-white, and coin like, 2-2.5 cm in diameter

2. PHYLLANTHUS EMBLICA (Star- Bharani)

Family	: Phyllanthaceae
Common name	: Indian gooseberry
Habit	: The tree is small to medium in size reaching upto 15 cm in height
Root	: Tap root system
Stem	: Main stem terete, producing a number of leafy shoots
Leaves	: Simple, alternate, closely overlapping, subsessile, stipules minute, oblong, base round, apex obtuse, glabrous, membranous
Inflorescence	: Flowers arranged in a many flowered inflorescence, axillary or behind the leaves
Flower	: Greenish-yellow in colour, monoecious
Male flower	: 6 tepals, oblanceolate, obtuse
Androecium	: stamens 3, anthers oblong, disc glands
Female flower	: tepals 6, obtuse
Gynoecium	: ovary superior, 3-celled, styles 3, recurved, stigmatiferous
Fruit	: capsule, subglobose, indehiscent berry
Seed	: 3-6 in number, Endospermic

3. FICUS RACEMOSA (Star - Karthika)

Family	: Moraceae
Common name	: Cluster fig
Habit	: large deciduous tree, to 30 m high
Root	: Tap root
Stem	: 8-10 mm thick, latex milky, shoots and twigs finely white hairy, soon glabrous
Leaves	: Petiolate, alternate, simple, stipulate, lanceolate, pubescent, ovate, apex narrow, margin entire, membranous, glabrous

Inflorescence	: Catkin or Hypanthodium
Flower	: Small inconspicuous, bracteate and bracteolate, Actinomorphic, Incomplete, unisexual, hypogynous; male flowers in 2-3 rings, sessile, compressed, tepals 3-4, red, glabrous ; female flowers sessile, tepals 3-4, red, glabrous
Perianth	: Sepaline usually or vestigial or absent (rarely), 2-4 free or fused
Androecium	: Stamens 2, exerted, anthers oblong
Gynoecium	: superior ovary, sessile, style short, stigma clavate,
Fruit	: An achene
Seeds	: Endospermic or non-endospermic

4. SYZYGIUM CUMINI (Star- Rohini)

Family	: Myrtaceae
Common name	: Java Plum
Habit	: A medium sized evergreen tree upto 15m
Root	: Tap root and branched
Stem	: Erect wood, branched, bark very shining smooth
Leaves	: Smooth, glossy, elliptic to oblong or ovate, found throughout the state often gregarious in swamp
Inflorescence	: Cyme type, sometimes panicle cyme or corymb cyme
Flower	: Pedicellate or sessile, actinomorphic, hermaphrodite
Calyx	: Sepals 4-5, poysepalous, quincuncial aestivation
Corolla	: Petals 4-5 more or less circular in form, polypetalous
Androecium	: Stamens indefinite, in the bud condition the stamens are absent, polyandrous, rarely monadelphous
Gynoecium	: Carpels 2 to indefinite, syncarpous, inferior, axile placentation, capitate stigma
Fruit	: A berry, oblong, black
Seed	: Non-endospermic

5. ACACIA CATECHU (Star- Makayiram)

Family	: Fabaceae
Common name	: Cutch trees
Habit	: deciduous, gregarious trees, to 15 m high
Root	: Taproot, much branched and deep, erect or woody
Stem	: Dark greyish-brown to dark brown, rough, exfoliating in long, narrow, rectangular strips, branchlets brown, glabrous
Leaf	: Alternate, bipinnate, stipulate, 3-10 mm long, oblong, base truncate, apex round, pubescent
Inflorescence	: Cymose head
Flower	: sessile, Pentamerous, Small actinomorpoic
Calyx	: sepals 5, gamosepalous, cupulate-campanulate, imbricate or valvate aestivation
Corolla	: Petals 5, gamo- or polypetalous, oblong
Androecium	: Filaments long, ditheous, stamens 4.5-5mm long, pollengrains often in packets
Gynoecium	: Monocarpellary, ovary superior, unilocular, style long, marginal placentation
Fruit	: flat pod, pointed at both ends
Seed	: Non-endospermic

6. DIOSPYROS MELANOXYLON (Star- Thiruvathira)

Family	: Ebenaceae
Common name	: Black ebony
Habit	: Deciduous tree, lacking milky sap
Root	: Tap root, deep and branched, formation of vertical loops
Stem	: Erect, woody, branched, heart wood often black, red, green
Leaves	: Simple, opposite, coriaceous, elliptic, entire, petiolate, tomentose when Young and glabrous when mature
Inflorescence	: solitary or cymose
Flower	: Unisexual usually in dioecious plants, polygamous, actinomorphic, 3-7 merous
Calyx	: Sepals 3-7, gamosepalous
Corolla	: Petals as many as sepals, gamopetalous, 3-lobed
Androecium	: Stamens are as many as twice or thrice, bitheous, staminodes may occur in females
Gynoecium	: Carpels 2-16, superior ovary with chambers as many as carpels
Fruit	: Olive green, globose, 1-8 seeded berries
Seed	: compressed, oblong, shiny and banded

7. BAMBUSIA ARUNDINACEA (Star- Punartham)

Family	: Poaceae
Common name	: Indian thorny bamboo
Habit	: Tall trees
Root	: Fibrous, branched
Stem	: culms erect, woody with root thorns from nodes, pubescent
Leaves	: Alternate, simple, exstipulate, sessile, ligulate, hairy and glabrous leaf sheath
Inflorescence	: spikelet comprising 5-7 fertile florets, lanceolate
Flower	: Bracteate, Bracteolate, sessile, incomplete
Perianth	: Represented by membranous scales called lodicule. Glumes several, persistent. Fertile lemma ovate, without keel. Lemma apex acute, palea keels wingless and ciliate. Apical florets sterile.
Androecium	: usually 3, filaments free, anthers bitheous, basifixed
Gynoecium	: bicarpellary, syncarpous, style 3, feathery stigma
Fruit	: Caryopsis
Seed	: Endosperm starchy and containing a single cotyledon called scutellum

8. FICUS RELIGIOSA (Star- Pooyam)

Family	: Moraceae
Common name	: sacred fig
Habit	: deciduous or semi evergreen tree
Root	: Tap root
Stem	: Woody, milky exudates from the stem
Leaves	: Petiolate, alternate, simple, spiral, stipulate, cordate in shape
Inflorescence	: syconia
Flower	: Small, inconspicuous, bracteates, unisexual, hypogynous

Perianth	: 4 in two whorls
Androecium	: stamen 1, anther oblong parallel
Gynoecium	: superior ovary, oblong, stigma rounded.
Fruit	: achene
Seed	: Endospermic

9. CALOPHYLLUM INOPHYLLUM (Star- Ayilyam)

Family	: Calophyllaceae
Common name	: Indian laurel
Habit	: Large evergreen tree
Root	: Woody, shallow
Stem	: Bark is grey in colour deep fissures alternating with flat ridges
Leaves	: Glossy, leathery leaves, elliptic-oblong, coriaceous, glabrous,
Inflorescence	: Racemose, 7-12 flowered
Flower	: polygamous, White, star shaped flowers with round petals, glabrous
Calyx	: sepals 4, reflexed, petaloid
Corolla	: petals 4, obovate, nerved
Androecium	: stamens indefinite, anthers rounded, filaments long
Gynoecium	: ovary globose, peltate stigma, style long
Fruit	: Dull green, Spherical, drupe
Seed	: ovoid, Single large

10. FICUS BENGHALENSIS (Star- Makam)

Family	: Moraceae
Common name	: Weeping fig
Habit	: large sized tree with latex
Root	: prop roots
Leaves	: alternate, simple, petiolate, stipulate
Inflorescence	: hypanthodium
Male Flower	: ebracteate, sessile, actinomorphic, unisexual
Perianth	: 2-5, gamophyllous
Androecium	: 1, filament long, exerted anthers, bitheous anthers, introrse
Gynoecium	: absent
Female flower	: ebracteate, sessile, actinomorphic
Perianth	: 2-5
Androecium	: absent
Gynoecium	: bicarpellary, syncarpous, superior ovary, placentation apical, style long, stigma capitate
Fruit	: syconium
Seed	: One seeded

11. BUTEA MONOSPERMA (Star- Pooram)

Family	: Fabaceae
Common name	: Flame of the forests
Habit	: Medium sized dry season deciduous tree growing to 15m tall
Stem	: Rough and ash coloured, exudation red

Leaves	: alternate, stipulate, cauducous, pubescent, Pinnate, with 8-16 cm long, Petiolate and three leaflets
Inflorescence	: Raceme upto 15 cm long
Flower	: bisexual, 2.5 cm long, bright orange coloured
Calyx	: teeth 5, deltoid, Green and Fleshy
Corolla	: 5, standard petal 1, lanceolate, clawed, keel united, Typical pailionaceous corolla. Petals are bright
Androecium	: 9+1, anthers uniform
Gynoecium	: ovary inferior, 2 ovules, style long, stigma small
Fruit	: pod, 15- 20 cm long and 4-5 cm broad, wing-like
Seed	: obovate and compressed

12. FICUS MICROCARPA (Star- Uthram)

Family	: Moraceae
Common name	: Curtain fig
Habit	: evergreen tree usually epiphytic
Root	: Aerial root system
Stem	: Woody, gum exudes from the stem, greyish brown, smooth, latex milky,
Leaves	: Alternately arranged, simple, spiral, dark green above and pale green below, lamina elliptic, margin entire, glabrous, coriaceous
Inflorescence	: hypanthodium
Flower	: Small inconspicuous, bracteate, incomplete, unisexual, hypogynous; male flowers numerous, sessile; female flower sessile, 3 in number
Perianth	: 3 in number, free
Androecium	: Inflexed stamen, one in number, anthers unequal and straight pollen released by wind dispersal
Gynoecium	: ovary superior, stigma cylindric
Fruit	: Fig, appear on leaf axis, usually round
Seed	: Endospermic or non-endospermic

13. SPONDIAS PINNATA (Star- Atham)

Family	: Anacardiaceae
Common name	: Wild mango
Habit	: Small deciduous tree upto 20m height and 1.5m girth
Root	: Tap root, also possess shallower root
Stem	: Greyish brown, thick, rough and spine like projections, exudations colorless gummy
Leaves	: imparipinnate with 5 -21 leaflets, petiolate, apex acuminate, margin entire, glabrous, swollen at base,
Inflorescence	: Panicle
Flower	: Sweet –scented, large, terminal panicles of large flower, polygamous, yellowish-white
Calyx	: Sepals 5, free and imbricate, deciduous
Corolla	: Petals 5, imbricate, free
Androecium	: Stamen 10 in 2 whorls. Stamens arise from the rim of an annular

intrastaminal disc, anthers versatile

Gynoecium : pentacarpellary, syncarpous, unilocular, superior

Fruit : Drupe usually with a resinous mesocarp

Seed : Ex-endospermous with curved embryo

14. AEGLE MARMELOS (Star- Chithira)

Family : Rutaceae

Common name : Indian bael

Habit : Deciduous tree, upto 12m tall, aromatic,

Root : tap root

Stem : Bark is pale brown or greyish

Leaves : Trifoliate, alternate, mature leaves are dark green and smooth, dimorphic, petiolate, leaflets subsessile,

Inflorescence : Axillary and terminal, racemose

Flower : 1.5 to 2 cm, pale green or yellow, bisexual sweetly scented

Calyx : Consist of 5 sepals but sometime 4 and flat, copular, caducous

Corolla : 5 petals of 6-8mm, glabrous, fleshy and white

Androecium : numerous, filaments subulate, Short anthers

Gynoecium : Ovary is ovoid, bright green with an inconspicuous disc, 10-loculed, style short, stigma oblong

Fruit : berry, globose or slightly pear shaped with thick hard covering

Seed : Many seeded, oblong and flat

15. TERMINALIA ARJUNA (Star- chothi)

Family : Combretaceae

Common name : Arjun tree

Habit : medium sized deciduous tree

Root : taproot and branched

Stem : smooth, grey with drooping branches

Leaves : conical leaves, sub opposite, alternate, oblong, coriaceous

Inflorescence : spike

Flower : small, yellowish-white

Calyx : sepals 4-5, valvate aestivation

Corolla : usually small, polypetalous

Androecium : stamens double of the number of sepals, filaments are curved

Gynoecium : monocarpellary, inferior ovary

Fruit : 2.5cm long, drupe, winged

Seed : non- endospermic, spirally twisted cotyledon

16. FLACOURTIA MONTANA (Star- Visakhham)

Family : Salicaceae

Common name : Mountain sweet thorn

Habit : trees up to 8m tall

Root : Taproot

Stem : Branched and bear simple thorns, brownish, smooth

Leaves : Simple, alternate, petiolate, distichous, apex acuminate, base acute, pubescent

Inflorescence : unisexual, axillary cyme
Flower : unisexual, small, in axillary congested cymes
Calyx : 4 or 5, tomentose, imbricate
Corolla : absent
Androecium : stamens many, anthers versatile
Gynoecium : ovary superior, glabrous, 2-5 locular, ovules 2 in each cell,
Fruit : berry, globose
Seed : few, reddish

17. MIMUSOPS ELENGI (Star- Anizham)

Family : Sapotaceae
Common name : Spanish cherry
Habit : Medium sized evergreen tree
Root : Tap root, branched
Stem : erect, woody, branched, dark grey, scaly, rough, cracked, exudation white
Leaves : Simple, alternate, spiral, 1-2.5cm long, glabrous, stipulate, caduceus, pubescent,
leaf margin entire, coriaceous
Inflorescence : axillary fascicle
Flower : White, fragrant, bisexual, 1-3 in axillary fascicles
Calyx : Sepals are 4+4 with an outer whorl showing valvate and inner one imbricate aestivation, sepals are tough, pubescent
Corolla : 3 series of 8 petals each, 2 dorsal appendages, acuminate
Androecium : 8 stamens alternating with staminodes, short filaments, anthers oblong, cordate,
Gynoecium : 6-8 celled, superior ovary with as many chambers, axile placentation, style columnar, stigma fimbriate
Fruit : Berry, yellow, ovoid
Seed : one seeded, hard, shining, oblong

18. APOROSA LINDLEYANA (Star- triketta)

Family : Euphorbiaceae
Common name : Lindley's aporosa
Habit : trees up to 15m tall
Stem : smooth, fissured, brownish
Leaves : Simple, alternate, spiral, stipules oblong, caducous, glabrous
Inflorescence : male flowers in axillary catkins, female flowers in condensed cymes
Flower : Unisexual, dioecious
Calyx : 4-lobed
Corolla : absent
Androecium : stamens 3-4, didynamous
Gynoecium : ovary superior, stigma bifid, trilocular, placentation axile
Fruit : capsule smooth, globose, to 1.3cm across
Seed : 2-4 seeded

19. VATERIA INDICA (Star- Moolam)

Family : Dipterocarpaceae
Common name : White dammar

Habit : tall trees generally up to 40m
Root : tap root, branched
Stem : erect, high, woody, greyish, smooth, exudates resinous
Leaves : Simple, alternate, spiral, oblong, heart-shaped, margin entire, coriaceous, glabrous, lamina elliptic-oblong, midrib flat
Inflorescence : Axillary panicles with dense stellate hairs
Flower : Usually white in colour, bisexual, fragrant
Calyx : Sepals 5, free, imbricate or valvate
Corolla : Petals 5, white in colour, obovate
Androecium : stamens many, free, filaments hairy, anthers linear oblong, yellow
Gynoecium : Superior, axile placentation, ovoid, 3-celled, 2-ovules in each cell, style filiform, stigma small
Fruit : capsule, 4 -6cm x 2 – 4cm in size, pale brown fleshy, hard
Seed : one-seeded

20. SALIX TETRAPERMA (Star- Pooradam)

Family : Salicaceae
Common name : Indian willow
Habit : large deciduous tree
Root : Taproot
Stem : erect, woody, solid, branched, grayish brown
Leaves : Simple, alternate (leaves born singly along stem)
Inflorescence : Axillary or terminal catkin
Flower : male flowers 5-10cm long and female flowers 8-12 cms long
Androecium : stamens 2-8, nectariferous gland, orange or purple anthers, 2-celled, filaments pale brown
Gynoecium : ovaries solitary, stigmas 2-4, style 2-lobed, ovules numerous
Fruit : capsule
Seed : ovate-lanceolate, flattened

21. ARTOCARPUS HETEROPHYLLUS (Star - Uthradam)

Family : Moraceae
Common name : Jackfruit
Habit : Grows as an evergreen tree upto 20 m tall
Stem : blackish-grey, blaze cream, exudate white in color
Leaves : Simple, alternate, stipulate, petiolate, thick leathery, acute tip
Inflorescence : spike, male inflorescences are stout and cylindrical found on younger branches above female inflorescence. Female inflorescence is huge, irregular oblong.
Flower : unisexual, minute, yellowish green, male and female flowers are borne separately but on the same plant.
Perianth : 2-lobed, puberulous
Androecium : stamen one, filament flattened, anthers oblong
Gynoecium : superior, globose, style exerted, stigma spatulate
Fruit : sorosis
Seed : Smooth, ovoid, reniform, glossy

22.CALOTROPIS GIGANTEA (Star- Thiruvonam)

Family : Apocynaceae

Common name : Giant milkweed

Habit : Large shrub growing 4m tall

Root : Taproot

Stem : rounded

Leaves : Simple, mostly opposite and decussate, sometimes, they may be alternate or even whorled

Inflorescence : Generally a cyme, either terminal or axillary

Flowers : Bracteate, bisexual, actinomorphic, hypogynous, pentamerous, pale, purple, or greenish-white

Calyx : Sepals 5, touch one another at margin without overlapping

Corolla : Petals 5 and united, the shape of corolla is variable, valvate aestivation

Androecium : consist of 5 stamens. The relation of these 5 stamens with the 2 carpels of gynoecium is complex, stamina corona.

Gynoecium : Bicarpellary, apocarpous, ovaries remain separate from each other, pentangular stigmatic head

Fruit : Mostly pair of follicle

Seeds : oblong-ovate, compressed covered with hairs

23.PROSOPIS JULIFLORA (Star- Avittam)

Family : Fabaceae

Common name : Mesquite

Habit : A small evergreen tree, 10 m high

Root : Its roots are able to grow to a great depth in search of water.

Leaves : bi-pinnate, alternate, stipulate, thorny, petiolate, base obtuse, apex obtuse

Inflorescence: spike

Flower: bisexual, greenish-yellow, subsessile, bracteolate

Calyx : 5-toothed, campanulate, glabrous

Corolla : pentamerous, free, tomentose on the inner surface towards apex

Androecium : 10 stamens which are 3 – 6 mm long, free, anthers with apical gland

Gynoecium : ovary superior, pubescent, ovules many, style filiform, stigma minute

Fruits : Pod, slightly curved, pale yellow, flattened.

Seeds : Seeds are hard, flattened, ovoid, and have shiny yellowish brown colour.

24.ANTHOCEPHALUS CADAMBA (Star- Chathayam)

Family : Rubiaceae

Common name : Burflower tree

Habit : trees, reaching upto 45m in height

Root : Much branched taproot system

Stem : broad crown, cylindrical bole

Leaves : opposite, stipulate

Inflorescence : cymose

Flower : fragrant, red to orange in color, occurring in dense globular heads, bisexual

Calyx : Sepals 4 or 5, gamosepalous

Corolla : Petals 4 or 5, gamopetalous

Androecium : Stamens 4 or 5, rarely many epipetalous, inserted near the mouth of corolla tube, stamens ditheous, introrse

Gynoecium: inferior, bilocular, placentation axile, style slender, stigma capitate

Fruit : capsule or drupe

Seed : 1-many, curved or straight, endosperm present

25.MANGIFERA INDICA (Star- Pooruttathy)

Family : Anacardiaceae

Common name : Mango

Habit : Evergreen, medium to large sized trees

Root : The tree forms a long branched long taproot (up to 6 to 8 meters and more) plus a dense mass of superficial feeder roots.

Stem : erect, aerial, branched, woody, cylindrical and solid

Leaves : simple, alternate, petiolate, exstipulate, acute entire, glabrous, coriaceous

Inflorescence : Terminal panicles, branched

Flower : pedicellate, bracteates, hermaphrodite, actinomorphic, hypogynous, cyclic, yellowish white

Calyx : 5 sepals, gamosepalous, sepals adnate to ovary wall

Corolla : 5 petals, polypetalous, imbricate aestivation

Androecium : 5 stamens, one functional stamen, antiseptalous, anthers ditheous, introrse, basifixed

Gynoecium : tricarpeal, syncarpous, only one carpel functional, superior ovary, axile placentation, single pendulous ovule in each locule, style short, stigma lobed

Fruit : drupe

Seed : exalbuminous

26.BORASSUS FLABELLIFER (Star- Uthattathi)

Family : Arecaceae

Common name : Asian Palmyra palm

Habit : Large, unbranched trees

Root : Adventitious roots

Stem : Aerial, woody, erect, unbranched, very rarely branched, solid, rough, brown

Leaves : cauline, exstipulate, petiolate, glabrous,

Inflorescence : spadix

Male Flower : Bracteate, sessile, actinomorphic, unisexual, staminate, trimerous, cyclic

Perianth : Tepals 6, in two whorls of 3 each

Androecium : stamens are 6 in number, two whorls of 3, versatile, ditheous, basifixed or dorsifixed, introrse

Female flower : bracteates, sessile, incomplete, pistillate, unisexual, actinomorphic, trimerous, Cyclic

Gynoecium : tricarpeal, syncarpous, superior ovary, 3-locular, style absent, stigma short

Fruit : Usually a berry

Seed : Endospermic

27. MADHUCA LONGIFOLIA (Star- Revathi)

Family : Sapotaceae

Common name : Mahua

Habit : Trees upto 20m in height

Root : Taproot, branched

Stem : Erect, woody, branched, grey in color, exudation milky
Leaf : Simple, alternate or opposite usually entire, coriaceous, stipulate, hairy leathery.
Inflorescence : Solitary or in cymose clusters in the leaf axils
Flower : Actinomorphic, hermaphrodite, hypogynous, hairy bracteolate.
Calyx : 4 lobes, obovate, tomentose, acute
Corolla : 6-12, oblong
Androecium : 16 stamens, anthers hairy
Gynoecium : ovary superior, 6-celled, style long, stigma obtuse
Fruit : Berry, greenish, fleshy
Seed : seeds few, hard, shiny, endosperm

CONCLUSION

The Indian Astrology is based on the concept of Nakshatras and Rashis. According to which every human being is born in a particular Nakshatra and based on this, his/her planetary positions suits a particular type of plant according to their horoscope and place of residence. Each plant has their own aura level which encompasses the area in which they are planted and it gives the positive effect on the nature of human being. This increases the positive energy level of that place and gives the vastu balancing effect of that place. There are in all 27 Nakshatras present in a year and every individual has a Nakshatra. Every Nakshatra has a symbolic tree or plant that defines its connection with eternal nature. The 27 plants belonging to 27 nakshatras were studied and their economic importance was also noted. A nakshatra garden consisting of these 27 plants can be created which is approach to conserve biodiversity. Plantation of nakshatra tree by each individual would definitely assist in biodiversity conservation.

ACKNOWLEDGEMENT

The author is thankful to The Head, Department of Botany, N.S.S College, Pandalam, for providing all the required facilities for the conduct of this project work.

REFERENCES

1. Ashton P.1998. *Vateria indica*. IUCN Red list of threatened species.
2. Augusti KT. 2006. Indian Medicinal Plants- *Ficus benghalensis* Linn., *Salacia oblonga* Wall. and *Alliums* as possible sources of antidiabetic, antioxidant and hypolipidemic principles., In: (Ed:) Trivedi, P.C., Medicinal plants Traditional Knowledge. IK International Pvt. Ltd., New Delhi. p. 61.
3. Bailey LH, Bailey EZ. 1976. A concise dictionary of plants cultivated in the United State and Canada. Macmillan; Newyork.
4. Banerjee A, Dasgupta N, De B. 2005. In vitro study of antioxidant activity of *Syzygium cumini* fruit. Food chemistry. 90(4): 727.
5. Blust R, Trussel, Stephen .2013. The Austronesian comparative Dictionary: A work in progress. Oceanic Linguistics. 52(20): 493- 523.
6. Boming Charles R. 2006. Florida's best fruiting plants native and exotic trees shrubs and vines. Florida; Pinapple Press Inc. P.107.
7. Braby, Michael F. 2005. The Complete Field Guide to Butterflies of Australia Collingwood, Victoria. CSIR publishing, ISBN – 643-09027-4.
8. Bringatao Li, Michael G, Douglassteven W. 2016. *Calotropis gigantea*. Edn. 2. Pp- 2-78.

9. Brunda S, Sulfin NS and Murugan V. 2013. Review of a Siddha Poly Herbal Formula Parangipattai Rasayanam, Siddha Articles 1-25.
10. Chopra RN, Nayar SL and Chopra IC. 1999. Glossary of Indian Medicinal Plants, Council of Scientific and Industrial Research, New Delhi., p.32.
11. Dahlberg AC and Trygger SB. 2009. Indigenous medicine and primary health care: The importance of lay knowledge and use of medicinal plants in rural South Africa. *Human Ecology* 37:79–94.
12. de Silva T. 1997. Industrial utilization of medicinal plants in developing countries, *Nonwood Forest Products II: Medicinal plants for forest conservation and healthcare*, FAO, Rome, Italy.
13. Dewick PM. 1997. *Medicinal Natural Products: A Biosynthetic Approach*, John Wiley & Sons Ltd. West Sussex.
14. Duke, James A. 1983. *Prosopis juliflora* Dc. In: *Handbook of Energy Crops*. Purdue University Centre for New Crops and Plant products.
15. Fabricant DS and Farnsworth NR. 2001. The value of plants used in traditional medicine for drug discovery. *Environmental Health Perspectives* 109 (Suppl. 1): 69-75.
16. Gamble JS. 1935. *Flora of Presidency of Madras*, Vol II., Botanical Survey of India, Calcutta, India. pp. 799-800.
17. Govaests R, Frodin DG, Radcliffesmith A. 2000. World check list and Bibliography of Euphorbiaceae. The Board of trustees of the royal Botanical gardens, Kew. Pp-1-4.
18. Gupta S. 1984. *The Ayurvedic system of medicine occurring in Charaka, Sushruta*. Vol. III. Neeraj Publishing House. New Delhi, India.
19. Hartwell JL. 1967. Plants used against cancer- A survey. *Lloydia*. Pp- 30- 34.
20. Jackson JK. 1994. *Manual of afforestation in Nepal Kathmandu*. Forest Research and Survey Centre.
21. Keith and Macdonell. 1912. *Vedic Index of Names and subjects*.
22. Lohar DR and Singh R. 2008. *Quality control manual for Ayurvedic, Siddha and Unani Medicine*. Ghaziabad: Department of Ayush, Ministry of Health and Family Welfare. Pharmacopoeial Laboratory for Indian Medicine. pp. 21-24.
23. Mahajan YA, Sane H and Deshpande MV. 2015. Nakshatra garden: an ancient approach to conserve biodiversity. *Biological Sciences*. 1(3): 24-26.
24. Midya S, Brahmachary RL. 1991. The effect of birds upon germination of Banyan (*Ficus benghalensis*) seeds. *Journal of Tropical Ecology*. 7 (4):537-538.
25. Nadkarni KM. 1976. *Indian Materia Medica* Vol. I., Popular Prakasham, Bombay., pp.165- 1093.
26. Oxdhia P. 2008. *Strychnos nux-vomica* L. Schanelzer GH and Gurib – Fakim A (Editor). PROTA, Netherlands.
27. Pankaj O, Robert EP. 2008. *Madhuca latifolia* Roxb. Sapotaceae *Encyclopedia of Fruit and Nuts*. CABI, Walling ford, United Kingdom. P827-828.
28. Pollard JF. 1969. A note on the nursery treatment of two species of Sabah. *Malay. Forester* 32(3): 269-27.
29. Ramarao NBVA, Reddi STVV and Prasanthi S. 2008. Folk herbal remedies for rheumatoid arthritis in Srikakulam district of Andra Pradesh. *Ethnobotany* 20: 76- 79.
30. Rashtogi, Rekha. 2008. *Let us identify the useful tree*. New Children's Book Trust Pub, ISBN 978 – 81011 – 919 -7.
31. Reddy KN, Trimurthulu G. and Reddy SC. 2010. Plants used by ethnic people of Krishna District, Andhra Pradesh. *Indian Journal of Traditional Knowledge* 9(2): 313- 317.

32. Rutesh RS and Patel RS. 2014. Study of various plant species useful in each nakshatra for human society. International Journal of Scientific and Research publication. 4(1): 1-10.
33. Satyanarayana VS and Colin W. 2008. Investigation of Indian Diospyros species for antiplasmodial properties. E-CAM. 5 (2) 187 – 190.
34. Seema A, Shamahat A, Akbar M and Iqbal M. 2010. Use of Strychnos nux - vomica seeds in unani system of medicine. African Journal of traditional, complementary and alternate medicines. 12(4): 22-24.
35. Shaanika, Relvy. 2012. Embike – a potent traditional brew.
36. Singh SP and Jain RC. 1987. Yield of heartwood in Acacia catechu, khair for use in katha manufacture. Indian forester. 113: 404 – 408.
37. Tanon. 2018. Aegle marmelos (L), Correa GRIN Global, National Plant Germplasm System, US Department of Agriculture.
38. The Wealth of India 1948. A Dictionary of Indian Raw Materials and Industrial Products. CSIR, New Delhi. p.142.
39. Tolu O. 2008. Outlines and pictures of medicinal plants from Nigeria. University of Lagos press. P-119. ISBN 978-48712-7-3.
40. World Conservation Monitoring Centre. 1998. Mangifera indica. The IUCN Red List of Threatened Species.