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Medicinal Plants of Dhurga Devi Temple Kavu (Sacred Grove), Neyyattinkara Municipality, Thiruvananthapuram District, Kerala, India

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Abstract

During the study Sacred Groves of varying sizes were found to occur in the Chirayinkeezhu Block and are mainly confined to the low and region and are usually associated with temples. Some of them are in private possessions. For the deep study have selected Dhurga Devi temple sacred grove. They were precisely located and an inventory medicinal plants was prepared. The medicinal plant diversity in this sacred grove is good. In this research, systematic enumeration of the medicinal plants been done.

Keywords

Medicinal Plants, Sacred Groves, Kerala, Diversity, Enumeration

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INTRODUCTION

Scared Groves are small patches of native vegetation, traditionally protected and conserved by the local communities/villagers on religious background. They remained protected from all vagaries of time and external intervention of urbanization due to religious restriction and taboos (Gadgil & Vartak, 1976). They are often described as sanctum sanctorum of a wide array of flora and fauna, including many rare, endemic and endangered species. These systems also function as dispensary of medicinal plants, recreation centre for urban life, laboratory for botanists, gene banks of many cultivars, paradise for nature lovers and study sites for environmentalists and naturalists (Balasubramanyan & Induchoodan, 1996). In short it can be considered as a typical example for the *in-situ* conservation of our Indian heritage.

MATERIALS AND METHODS

Study Area

Neyyattinkara Municipality is one among the four Municipalities of Thiruvananthapuram district of Kerala State. It is bounded on the North by Balaramapuram Panchayath and Maranalloor village, east by Perumkadavila village, south by Chenkal Panchayat and Kollayil Panchayath and west by Athiyannoor Panchayat and Thirupuram village. Scared Groves in this Municipality are mainly confining to the temple premises. However, a few are also in the private possession.

Methodology

Extensive field surveys were conducted in Neyyattinkara Municipality to locate the scared groves of Neyyattinkara Municipality. After the preliminary surveys covering all seasons, the plants used by the local people for their common ailments were collected in generative stages for herbarium and future studies from the above scared groves. Herbarium specimens were prepared according to the standard techniques. These were provisionally identified by using standard floras and monographs (Hooker, 1872-1897; Gamble & Fischer, 1915-1936; Mohanan & Henry, 1994, etc.) and later cross-matched with authentic of time specimens deposited in Christian College, Kattakda and Tropical Botanic Garden, Trivandrum, etc. Once their identities were confirmed, the species were again referred to the classical books of Medicinal plants and their used were also cross checked for authenticity. Voucher specimens collected were deposited in the herbarium of Department of Botany, Christian College Kattakada.

Each species is provided with its correct nomenclatural citation followed by a precise diagnosis, notes on occurrence, phenology, distribution and their uses. The species are arranged according to the Bentham and Hooker's system (1862-1883). This system was followed for convenience and as the system followed in all Indian herbaria.

RESULTS

Enumeration of the Herbal Plants

Cissampelos pariera L. var. **hirsuta** (Buch. -Ham. ex DC.) Forman, Knew Bull. 22:356. 1968; Rhodes, Phytologia 30: 446. 1975; Mohanan & Henry, Fl. Thiruvananthapuram 50. 1994. *C. hirsuta* Buch. -Ham. ex DC., Syst. 1: 535. 1817. *C. convolvulacea* var. *hirsute* (Buch. -Ham- ex DC.) Hassk., Pl. Jav. Rar. 171. 1848. *C. pariera* L., Sp. Pl. 1031. 1753 p.p.; Hook.f. & Thomas. In Hook.f., Fl. Brit. India 1:103. 1872; Rao, Fl. Pl. Travancore 12. 1914; Dunn in Gamble Fl. Madras 1:30. 1915. *Kattukodi*. (MENISPERMACEAE).

Herbaceous tomentose twiners. Leaves ovate or ovate- orbicular, 3-8 x 2.5-5cm, cordate at base acuminate or apiculate at apex, puberulous, above, canescent beneath. Male flowers: Greenish-white in cymose panicles. Petals united to form a cup. Stamens 4, anthers connate and forming a ring at the top of stamina column. Female flowers: Fascicled in axils of leafy bracts. Sepals and petals fused with the bracts, Carpel one, style 3 – fid. Drupes scarlet red hirsute, compressed.

Fl. & Fr: Sept.- Nov.

Dist.:- Throughout the tropics.

Uses: Leaves used internally along with jaggery for post natal care.

Tinospora glabra (Burm.f.) Merr. in J. Arnold Arbor. 19: 340. 1938; Forman Kew Bull. 36: 414. 1941. *T. cordifolia* (Wild.) Hook.f. & Thomas, Fl. Ind. 184. 1855 & in Hook.f., Fl. Madras 26. 1915; Forman, Knew Bull.36: 403. 1981; Mohanan & Henry, Fl. Thiruvananthapuram 53. 1994. *Menispermum cordifolium* Willd., Sp. Pl. 4: 826. 1806; Roxb., Fl. Ind. 3: 811. 1832. *Cocculus cordifolius* (Willd.) DC., Syst. 1: 517. 1818 & in Prodr. 1: 97. 1824; Wight, Icon. pl. Ind. Orient. tt. 485 & 486. 1841. *Amruthu*

Woody climbers; brachlets glabrous. Leaves cordate, 4-9 x 4-8 cm, acuminate at apex, glabrous, 5-7 nerved; petiole to 10 cm long, pulvinate. Male Flowers in pseudo-racemes, axillary or on leaf less brachlets, 10-20 cm long. Sepals 6 in two rows, outer one ovate; inner one elliptic. Petals 6, green, obovate, refluxed. Stamens 6, enclosed by the petals, free; filaments clavate. Female flowers in racemes, to 3 cm long. Sepals 6; outer one lanceolate; inner one obovate. Petals 6, broadly spathulate. Carpels 3; styles stout; stigma forked. Drupes globose, 6-5 mm. *Fl. & Fr.* Jan. – Jun.

Dist.: India, Bangladesh, Sri Lanka.

Uses: Decoction of stem juice used in the treatment of kidney stone and also diabetes.

Abutilon indicum (L.) Sweet, Hort. Brit. 54. 1827; Wt. Icon. Pl. Ind. orient. t. 12. 1838; Mast. in Hook. F., Fl. Brit. India 1:326. 1874; Rao, Fl. Pl. Travancore 39. 1914; Dunn in Gamble, Fl. Madras 91. 1915; Borssum, Blumea, 14: 170. 1966; Mohanan & Henry, Fl. Thiruvananthapuram 77. 1994. ssp. **indicum** Borssum, Blumea 14:171. 1966. *Thuthi.* (MALVACEAE).

Undershrub; stem minutely stellate and simple tomentose all over. Leaves 5-7 x 3.5-5 cm, ovate, cordate at base, acuminate at apex, serrate or dentate at margins, pale green; pedicel to 4.5 cm, jointed above the middle. Flowers yellow, solitary,

axillary. Calyx to 0.8 cm long, divided to the middle; lobes ovate, acute or apiculate. Petals to 1.2 cm long, obovate, retuse at apex. Staminal column stellate-tomentose, filaments to 3 mm long. Carpels 15-20, usually longer than calyx; styles 15-20. Schizocarp to 1.5 x 2 cm; mericarp 15-20; densely stellately hairy. Seeds ovoid or sub orbicular, black.

Fl. & Fr: Oct-Jan.

Dist.: Tropics and sub tropics of the world.

Uses: Roots are used for the treatment of fever, chest infection and urethritis. Decoction of leaves used as an eye wash and also as a mouth wash in tooth ache.

Hibiscus hispidissimus Griff., Not. Pl. Asiat. 4:521. 1854; Pradeep & Sivaraj., Taxon 40:637. 1991; Mohanan & Henry, Fl. Thiruvananthapuram 75. 1994. *H. aculeatus auct. non*-Walter 1788; Roxb., Fl. Ind. 3:206. 1832, *nom. illeg;* Paul & Nayar, Bull. Surv. India 22: 194. 1982 & in Fl. India Fasc. 19:123 1988. *H. furcatus auct.* non Willd. 1809; Roxb ex DC., Prodr. 1: 449. 1824, *nom. Illeg.* Mast in Hook. f., Fl. Brit. India 1: 335. Rao, Fl. Pl. Travancore 40., 1914; Dunn in Gamble, Fl. Madras 97. 1915. *Karthia poovu*. (MALVACEAE).

Straggling shrubs, stem, petioles and pedicels with sharp recurved prickles. Leaves 7-17 x 4.5-10 cm, ovate-lanceolate, cordate at base, acuminate at apex, crenate-serrate at margins; 5-7 nerved at base; petioles 2-8 cm long. Flowers solitary, axillary, 5-10 cm across, yellow with a deep purple base. Epicalyx 8-12, 8x3 mm. Petals 5, 3x1.5 cm. Capsule globose, 1.5 x 1 cm, not exceeding calyx, bristly hairy, braked; seeds 3-gonous, 4 mm long.

Fl. & Fr: Nov. – Dec.

Dist.: Pantropical.

Uses: Roots infused in water make a cooling drink for the hot weather. It is also used for the treatment of fever.

Sida acuta Burm.f., Fl. Ind. 147.1768; Wight & Arn., Prodr. fl. Ind. orient. 57. 1834; Wight, Icon. pl. Ind. orient. t. 95. 1838; Dunn in Gamble, Fl. Madras 90. 1915; Borssum, Blumea 14:186. 1966; Fryxell, Syst. Bot. Monogr. 25:380.1988; Paul & Nayar in Nayar *et al* (eds.); Fl. India 3: 281. 1993; Mohanan & Henry, Fl. Thiruvananthapuram 81. 1994; Sivaraj. & Pradeep, Malvaceae of South. Pen. India 238. 1996. *S. frutescens* Cav., Diss. 1: 12. t. 10.f 1.1785. S. *balbisiana* DC., Prodr. 1:460. 1824. *Cherukurunthotti.* (MALVACEAE).

Erect undershrubs; stem and branches green, stellage pubescent or glabrescent. Leaves distichous, 3-6 x 1-2 cm, lanceolate-ovate, truncate at base, acute or acuminate at apex, serrate and entire towards the base; 3-nerved at base; stipules unequal, linear – lanceolate, the larger 5-veined and the smaller -veined; petioles to 5 mm long, pulvinate on both ends. Flowers yellow, axillary, solitary; pedicels to 4 mm long, jointed at the middle. Calyx 5-6 mm diameter, campanulate, villous, divided to middle; lobes 5. Petals 5, yellow, to 7 mm long, obliquely obovate, sparsely glandular hairy without. Staminal column to 2.5 mm long, glabrous or minutely pubescent; anthers pale yellow. Ovary 1.5 mm long, ovoid, sparsely hairy towards apex. schizocarp to mm, glabrous, almost equalling the mericarp 6-8, to 3x2 mm, trigonous with acute angles, 2 awned, sides reticulate, glabrous. Seeds glabrous.

Fl. & Fr: Sept. – Apr.

Dist.: Pantropical.

Uses: Roots are made into a paste with sparrow's dung and water and applied for the bursting of boils and abscesses. The decoction of roots is also used as a diuretic in rheumatic complaints.

Biophytum veldkampii Shanavas, Santhosh, Binu *et* Pushpangadan, Rheedea 8(1): 79. 1998. (OXALIDACEAE).

Annuals, stem simple, rarely branched, upto 15 cm long. Leaves 7-16 jugate, rachis slightly winged, 2.5-12 cm long, sparsely patently strigose; leaflets overlapping; terminals obovate and falcate, oblique, 7.5-16 x 3.5-7 mm, midrib eccentric; other oblong, truncate at base, apiculate at apex, midrib median, sparsely hairy above in the acroscopic half and along the midrib, margin ciliate, nerves a few, oblique to midrib, inconspicuous. Peduncles 6-9 cm long, appressed to patently strigose, eglandular, mucronate at apex. pedicels 1.5-2 mm long, glabrous. Flowers heterotristylous. Sepals ovate-lanceolate, 4-4.5 x 0.7-1 mm, half as long as corolla, 6-8 nerved in fruits, longer than pedicels, longer than capsules, sparsely strigose near the apex without. Petals oblanceloate, 8-10 x 4-5 mm, retuse at apex, claw greenish, limb yellow. Filaments puberulous, shorter 1-2 mm long; longer ones 2.5-4 mm long. Ovary 0.5-1 mm long, apically ciliate; style 0.2-2.7 mm long; stigma flattened, crenatebifid; ovules 2-per cell superposed. Fruits 3-3.5 x 2-2.5 mm, apically, ciliate on the ribs. Seeds 1-2 per cells, to 1.4 x 0.9 mm, transversely ridged, not tuberculate.

Fl. & Fr.: Round the year.

Dist.: Kerala, endemic.

Uses: A decoction along with sugar candy is used for post-natal care.

Oxalis corniculata L., Sp. Pl. 435. 1753; Wight, Icon. pl. Ind. orient. t. 18. 1838; Edgew. & Hook.f., Fl. Brit. India 1:436. 1874; Rao, Fl. Pl. Travancore 58. 1914; Gamble, Fl. Madras 132. 1915; Veldkamp in Steenis; Fl. Males. I, 155. 1971; Mohanan & Henry, Fl.

Thiruvananthapuram 96. 1994. *Puliarila*. (OXALIDACEAE).

Diffused herbs; branches rooting at lower nodes, pubescent with appressed haris. Leaves palmately 3-foliolate; leaflets to 1.5 cm long, obcordate, emarginated, cuneate at base, pilose; petiole to 2.5 cm long. Flowers 2-5 in long peduncled pseudo-umbels, yellow. Sepals 5, ovate-lanceolate, to 3 mm long. Petals 5, to 6 mm long, oblanceolate, rounded or emarginated at apex. Stamens 10, outer 5 shorter; filaments connate at base. Ovary 5-celled, ovules many in each locules; styles 5, free; stigma papillose. Capsule oblong or linear-oblong, to 1.5 cm long, loculicidal, acuminate at apex, tomentose. Seeds numerous, broadly ovoid, acute transversely rigied, brown.

Fl. & Fr: April-Feb.

Dist.: Cosmopolitan.

Uses: A decoction of whole plant along with butter milk is used for dysentery.

Aegle marmelos (L.) Correa in Trans. Linn. Soc. London 5:223. 1800; Wight, Icon. pl. Ind. orient. t. 16. 1838; Hook. F., Fl. Brit. India 1:516. 1875; Gamble, Fl. Madras 1:161. 1915; Mohanan and Henry, Fl. Brit. India 1:516. 1875; Gamble, Fl. Madras 1: 161. 1915; Mohanan & Henry, Fl. Thiruvananthapuram 101. 1914; Nair & Nayar in Hajra et. al (eds.) Fl. India 4:264. 1997. *Craateva marmelos* L., Sp. Pl. 444. 1753.*Koovalam.* (RUTACEAE).

Small tree armed with strong straight sharp spines. Leaves 3-foliated leaflets, 3.5 – 7.5 x 1.5 – 4 cm; elliptic-lanceolate or narrowly obovate, acuminate at apex, cuneate and slightly unequal at base, crenulate at margins, glabrous. Flowers greenish-white in axillary panicles. Calyx 4-lobed, pubescent, lobes rounded, ciliolate. Petals 4, oblong, coriaceous. Stamens numerous, filaments subulate, glabrous; anthers linear-oblong, apiculate. Ovary ovoid-oblong, glabrous, faintly ribbed; cells many ovuled. Berry globose, rind grey of yellowish, pulp sweet, thich, orange coloured.

Fl. & Fr.: April–Sept.

Dist.: India, Burma, Indo-china. Cultivated in S.E. Aisa, Malesia, Tropical Africa and United States.

Uses: Fruits pulp is used against hook worms. Leaves used in diabetes.

Azadirachta indica Adr., Juss. Mem. Mus. Hist. Nat. 19: 221. t. 2. f. 5. 1832; Wight & Arn. Prodr. fl. Ind. orient. 118. 1834; Wight, Icon. pl. Ind. orient.t. 17. 1838; Gamble, Fl. Madras 177. 1915; Mohanan & Henry, Fl. Thiruvananthapuram 108. 1994; Jain & Bennet in Hajra *et al.* (eds.) Fl. India 4: 478.1997. *Melia azadirachta* L., Sp. Pl. 385. 1753; Roxb. Fl. Ind. 2: 394. 1832; Bedd., Fl. Sylv. S. Inida. t. 14. 1869; Hieron in Hook.f., Fl. Birt India 1: 544. 1875. *Veppu*. (MELIACEAE).

Trees; branchlets glaucous. Leaves pinnate, 16-20 x 10 cm; leaflets 5-7 pairs, sub-opposite, 4.5-7 x 1.5-2.5 cm. oblong-lanceolate, falcate, cuneate and oblique at base, acuminate at apex, serrate at margins. Flowers 8 mm across. Calyx lobes 5, to 0.7 mm long, ovate, ciliolate, connate at base. Corolla white, free; lobes 5 x 1.5 mm, oblong-obovate, attenuate at base, tomentose. Stamens 10; filaments united to form a tube, to 4 mm long, glabrous; anthers slightly exerted, apiculate. Ovary 3-celled; ovules 2-per cell; style to 3 mm long; stigma terete, 3-lobed. Drupe to 1.5 x 0.5 cm, oblong-ovoid. Seed solitary, to 8 mm long, ellipsoid.

Fl. & Fr.: May-Aug.

Dist.: India, China, Malesia.

Uses: decoction of leaves and bark used against skin diseases.

Sarcostigma kleinni Wight and Arn., Edinburg New philos. J. 14:299. 1833; Wight, Icon, pl. Ind. orient.t. 1854. 1852; Mast. in Hook.f., Fl. Brit. India 1:594. 1875; Gamble, Fl. Madras 199. 1915; Sleumer, Blumea 17: 254. 1969; Mohanan & Henry, Fl. Thiruvananthapuram 114. 1994. *Odal.* (ICACINACEAE).

Lianas; bark smooth, brown. Leaves simple, alternate, 14-17 x 6-8 cm, oblong-lanceolate, rounded or obtuse at base, acuminate at apex, entire margins, coriaceous, lateral nerves 6-8 pairs; inter-costae; reticulate, very prominent. Flowers unisexual in elongated spikes from axillary or extra axillary tubercles. Male flowers: Calyx cup shaped, 5-toothed, pubescent without. Petals to 2.5 mm long, oblong, acute, at apex, refluxed. Stamens 5, a little longer than the petals. Ovary rudimentary, small, conical. Female flowers: slightly larger than male. Calyx cup shaped, 5-toothed, pubescent without. Petals to 2.5mm long, oblong. Ovary large, oblong or obovoid, villous; stigma large, subsessile, conical. Drupe brownish-yellow or orange red when ripening, to 3 x 1.8 cm. Seed 1.

Fl. & Fr.: October-August.

Dist.: Indo – Malesia.

Uses: Seed oil is used in the treatment of wounds.

Salacia chinensis L., Mant. Pl. 293. 1771; Ding Hou in Steenis, Fl. Males. I.6: 419. 1964; Mohanan & Henry, Fl. Thieruvanathapuram 118. 1994. *S. prionoides* DC., Prodr. 1:571. 1824; Wight & Arn., Prodr. Fl. Ind. orient. 105. 1834; Hook.f., Fl. Brit. India 1: 626. 1875; Gamble, Fl. Madras 215. 1918. *Cherukurandi*. (HIPPOCRATEACAE).

Scandent shrubs. Leaves simple, sub-opposite, 4-7 x 1.5-2.5 cm, oblong-overate or lanceolate, subacute

or obtuse at base, acute–acuminate at apex, serrate-crenate at margins; midrib prominent below, nerves obscure, glabrous, glossy above; stipules 0.5 mm long. Flowers in axillary umbles, to 1 cm long. Calyx lobes 5, broadly ovate, to 0.5 mm long. Petals 5, oribicular, to 4 x 2mm, greenish-yellow. Disc urceolate, thick, lobed, based papillose. Stamens 3, inserted on the rim of disc; filaments linear, subulate, 1.5 mm long. Ovary ovoid, to 1 mm long, 3-celled; style to 0.5 mm long; stigma simple. Berry globose, to 1 x 0.5 cm. Seed solitary, globose to 0.6 cm long.
Fl. & Fr.: Feb.-Oct.
Dist.: Pantropical.
Uses: A decoction of roots along with black cumin seeds used a diabetic drink.

Ampelocissus indica (L.) Planch., Vigne Amer. Vitic. Eur. 8: 371. 1884; Shetty & Singh, Taxon 37: 169. 1988. *Vitis indica* L. Sp. Pl. 202. 1753; Laws. in Hook.f. Fl. Brit. India 1: 653. 1875. *Ampelocissus amottiana* Planch. In DC., Monogr. Phan 5:379. 1887; Gamble, Fl. Madras 231. 1918; Mohanan & Henry, Fl. Thiruvananthapuram 119. 1994. *Thamara valli.* (VITACEAE).
Climbing shrubs; stem glabrous. Leaves simple, 12-18 x 11-17 cm, orbicular, 3-lobed; lobes acuminate, serrate at margins, pink-red below and dark green above, tomentose along the nerves when young; 5-7 ribbed at base; petiole to 10 cm long. Flowers nearly sessile in dense clusters or racemose cymes. Peduncle and pedicels wooly. Calyx copular; lobes obscure. Petals oblong, brownish-red, recurved. Disc vertically furrowed. Ovary grooved; stigma foveolate. Berry oblong-ovoid, to 2 cm long, smooth, reddish-purple.
Fl. & Fr.: Apr.-Aug.
Dist.: South India and Sri Lanka.
Uses: Roots used in the treatment of cancer.

Cardiospermum halicacabum L., Sp. Pl. 366. 1753; Wight, Icon. pl. Ind. orient. t. 508. 1841; Hiern in Hook.f. Fl. Britt. India 1: 670. 1875; Gamble, Fl. Madras 244. 1918; Mohanan & Henry, Fl. Thiruvananthapuram 124. 1994. var. mircrocarpum (Kunth) Bl., Rumphia 3: 185. 1847. *C. microcarpum* Kunth, Nov. Gen Sp. 5: 104. 1821. *Uzhinja*. (SAPINDCEAE).
Slender herbaceous climbers; branchlets sparsely puberulous. Leaves alternate, bi-ternate, to 8 cm long; leaflets 2.5-4 x 1-2 cm. ovate-lanceolate, obtuse and slightly decurrent at base, acuminate at apex, incised at margins; petiole to 3 cm long; petiolule to 2 mm long Flowers polygamous, white in axillary racemes; penduncles to 8 cm long; pedicels to 2 mm long. Male flowers: Outer sepals suborbicular, 1 mm long; inner ones oblong-obovate, 2.5 mm long. Petals 4, upper one oblong, to 2.5 mm, scaly, apical crest puberuluos. Stamens 8; filaments 1.5-2 mm long, pilose. Bisexual flowers: to 3.5 mm long. Stamens 8; filaments 1-1.5 mm long, densely pilose. Ovary oblong, to 2.5 mm long, 3-celled, pubescent; ovule 1-per cell; stigma shortly 3-fid, sessile. Capsule sharply 3-lobed, to 1.5 x 2 cm, winged at angles, pubescent. Seeds 3, globose, to 3 mm.
Fl. & Fr.: Jul. – Feb.
Dist.: Pantropical.
Uses: Leaf paste applied externally to cure hydrocoele. A decoction of whole plant is used against constipation.

Lannea coromandelica (Houtt.). Merr., J. Arnold Arbour. 19: 353. 1938; Ding Hou in Steenis, Fl. Males. I. 8:478. 1978; Mohanan & Henry, Fl. Thiruvananthapuram 128. 1994. *Dialium coromandelicum* Houtt., Nat. (ser.2) 2:39. t.5. f.2. 1774. *Odina wodier* Rixb., Fl. Ind. 2:293. 1832; Wight, Icon. pl. Ind. orient. t. 60. 1838; Bedd., Fl. Sylv. S. India. S. India t. 123. 1871; Hook. f., Fl. Brit. India 2:29. 1876; Gamble, Fl. Madras 1:263. 1918. *Uthi*. (ANACARDACEAE).
Trees; bark dark brown, flaking off in thin irregular scales, crimson red inside; young shoots rusty, stellate-tomentose. Leaves odd-pinnate, 15-25 cm long; leaflets opposite, 4 paris, oblong-lanceolate, obtuse and oblique at base, acuminate at apex, entire at margins, chartaceous; petiole 6-9 cm; petiolule to 5mm; lateral nerves 5-7 pairs. Flowers fascicled in terminal racemes or panicles, unisexual or bisexual. Male flowers: 4 mm across. Calyx lobes 4, triangular, 1 mm long, persistent. Petals 4, lanceolate, 3x1.5 mm, refluxed. Disc annular, 8-lobed. Stamens 8 inserted below disc; filaments 1.5-3 mm, equal, free, glabrous, Pistillose 4-lobed, with 4 styles and minute ovary. Bisexual flowers: 8 mm across. Sepals and petals as in male flowers. Stamens 8; anthers ovoid, sterile. Ovary 1-celled, 4 mm long; styles 4, distant; stigma peltate. Drupes ovoid or obovoid, 1 cm long. Seed 1.
Fl. & Fr.: Mar.–May.
Dist.: south and South East Asia and China.
Uses: Leaves are boiled in oil and are used for sprains and bruises. Stem bark used for the treatment of bone breaking.

Mangifera indica L., Sp. Pl. 200. 1753; Roxb. Fl. Ind. 1:641. 1832; Wight & Arn., Prodr. Fl. Ind. orient. 170. 1834; Bedd., Fl sykv. S. India t. 162. 1871; Hook f., Fl. Brit. India 2:13. 1876; Gamble, Fl. Madras 1:259. 1918; Ding Hou in Steenis, Fl. Males. I. 8:427. 1978; Mohanan & Henry, Fl. Thiruvananthapuram 129. 1994. *Mavu*. (ANACARDIACEAE).

Very large trees; bark dark grey, rough, exudation yellowish, gummy; young shoots glabrous, dark purple. Leaves simple, alternative, oblong or elliptic-lanceolate or oblong-lanceolate, 8-22 x 2.5-5 cm, cuneate-subacute at base, acuminate at apex, entire at margins; petiole to 3 cm long. Flowers polygamous in terminal panicles. Calyx lobes 5, ovate, 2 mm long, hairy without, Petals 5, creamy-white, oblong-obovate, 4 mm long, subequal, nerves at base gland-crested. Male flowers: stamens 5, fertile 1, 1.5 mm, staminodes 4, to 0.7 mm long. Bisexual flowers: Disc cupular, 4-5 lobed. Stamens 5, fertile stamens 1-2; filaments free, glabrous; anthers ovoid; staminodes 3-4, apically gland tipped. Ovary oblique, sessile, 1-celled; style lateral, 1mm long; stigma simple. Drupe ovoid-oblong, 5-7 cm long.

Fl. & Fr.: January – May.

Dist.: Indo – Malesia

Uses: A decoction of leaves used against tooth ache.

Abrus precatorious L., Syst. Nat. ed. 12, 2:472. 1767; Baker in Hook.f., Fl. Brit. India 2:175. 1876; Gamble, Fl. Madras 349. 1918; Brit., Blumea 10:617. 1960; Rudd in Dassan. & Fosb., Rev. Fl. Ceylon 1:446. 1980; Sanjappa, Leg. India 74.1992; Mohanan & Henry, Fl. Thiruvananthapuram 133. 1994. ssp. **precatorius**: Verde., Kew Bull. 24.240.1970. *Glycine abrus* L., Sp. Pl. 753. 1753. *Kunni*. (FABACEAE).

Twining shrubs; young parts sparsely hairy. Leaves pinnate, to 10 cm long; leaflets 10-15 pairs, oblong, to 2.5 x 0.8 cm, obtuse at base, obtuse and apiculate at apex, chartaceous, glabrous. Flowers clustered at the nodes on rachis in terminal and axillary racemes; bracts deciduous; bracteoles appressed to calyx; pedicels to 2 mm long. Calyx tube narrowly campanulate, to 2 mm long, truncate at apex, pubescent. Petals pink or white with pinkish tinge, clawed; standard broadly ovate, 1.5 x 0.8 cm, basally united to staminal column; wings narrow, oblong-falcate; keel curved, to 1x0.2 cm. Stamens 9, monadelphous anthers uniform; filaments 1-2 mm long. Ovary subsessile, to 8 mm long, pubescent; ovules many styles to 5 mm long, in curved, glabrous; stigma capitates. Pods oblong, 4.5 x 1 cm, wrinkled, septate. Seeds 5, subglobose, to 5 mm in diam. red or white with or without black spot, shining.

Fl. & Fr.: Oct. – May.

Dist.: Tropical Asia.

Uses: Roots of the white seeded variety is chewed for sore throat. Leaves are used for the treatment of tooth ache.

Desmodium gangeticum (L.) DC., Prodr.2:327. 1825; Wight & Arn., Prod. fl. Ind. orient. 225. 1834; Wight, Icon. pl. Ind. orient.t. 271. 1839; Baker in Hook.f., Fl. Brit. India 2:168. 1876; Gamble, Fl. Madras 345. 1918; van Meeuwen, Reinwardtia 6: 249. 1962; H. Ohasi, Ginkgoana 1: 184. 1973; Sanjappa, Leg. India 153. 1991. Mohanan & Henry, Fl. Thiruvananthapuram 146. 1994. *Orila*. (FABACEAE).

Erect shrubs; branchlets sericeous. Leaves 1-foliate, oblong-obovate or lanceolate, 4-10 x 2-5 cm, obtuse-subacute at base, acute or apiculate at apex, entire at margins, chartaceous, puberulous above, appressed-tomentose beneath; petiole 1.5-2 cm; stipules narrowly ovate. Flowers white, tingled lilac in terminal racemes. Calyx tube 4-lobed, 1 mm long; upper lobes connate, 1.5 mm long; lower one 2 mm. Petals: standard 5 mm long, broadly obovate; wings 3 mm; keels 4 m. Stamens 9+1; staminal sheath 3.5 mm. Ovary sessile, 3 mm long; ovules 8; style 1.5 mm. Pods to 2 cm long, moniliform, lower margins deeply undulate; articles 5-6. broadly oblong, hooked-pubescent. seeds 4-6, to 2mm.

Fl. & Fr. Aug.-Dec.

Dist: Tropical Asia, Africa and Australia.

Uses: Decoction of roots used in heart disease. It is one of the ingredients of Dasamoolarishtam.

Desmodium triflorum (L.) DC., Prodr.2: 334. 1825; Wight & Arn., Prodr. fl. Ind. orient. 229. 1834.p.p.; Wight Icon. pl. Ind. orient.t.292. 1839; Breaker in Hook.f., Fl. Brit. India 2:173. 1876; Gamble, Fl. Madras 347. 1918; van Meeuwen, Reinwardtia 6: 261. 1962; Mohanan & Henry, Fl. Thiruvananthapuram 147. 1994. *Nilapulladi*. (FABACEAE).

Prostrate herbs; branchlets elongate, pilose. leaves 3-foliolate; leaflets obovate, 4-5.5 x 4-5 mm, cuneate at base, obtuse or retuse at apex, entire at margins, chartaceous, glabrous above, pubescent below; petiole to 5 mm long. Flowers 3-5 in a cluster, axillary; primary bracts ovate. Calyx sub-equally, 5-lobed, united at base; tube to 1 mm long. Petals pink to violet; standard to 3 mm long, obovate; wings to 2 mm long; keels to 4 mm long. Staminal sheath 4 mm long; stamens diadelphous, 9+1. Ovary 4 mm long, glabrous; style to 2 mm, incurved. Pods 0.8-1 cm long, lower margins deeply intended, upper entire; articles 3-5, hooked-pubescent. Seeds 4-5, to 1.2 mm long broadly oblong.

Fl. & Fr: Oct.-Mar.

Dist: Pantropical.

Uses: Leaves are used for the treatment of diarrhea due to indigestion.

Saraca asoca (Roxb.) de Wilde, Blumea 15: 393. 1968; Sanjappa, Leg. Inida 35. 1991; Mohanan & Henry, Fl. Thiruvananthapuram 170. 1994. *Jonesia asoca* Roxb. in Asiat. Res. 4: 365. 1799; Wight, Icon, pl. Ind. orient. t. 206. 1839. *Saraca indica auct. non* L. 1769, sensu Bedd., Fl. Sylv. S. India t. 57. 1870; Baker

in Hook.f., Fl. Brit India 2:271. 1878; Gamble, Fl. Madras 409. 1919 *Asokam*. (CAESALPINIACEAE).

Medium sized trees. Leaves paripinnate, to 25 cm long; leaflets 4-6 pairs, oblong-lanceolate, 12-18 x 3-5 cm, oblique at base, acuminate at apex, entire at margins; petiole to 5 cm long; stipules scarious, ovate, to 2 cm long. Flowers in dense sessile corymbs, axillary to leaves or leaf scars; bracts ovate small; bracteoles oblong-spathulate, ciliolate, 4 mm long. Calyx orange-red; lobes ovate-oblong, to 8 mm long. Petals 0. Stamens 7 or 8, much exserted. Ovary pubescent; style incurved. Pods to 15 x 2.5 cm. Seeds ellipsoid-oblong, to 3.5 cm long.

Fl. & Fr: Mar.- Jul.

Dist: India and Burma

Uses: Decoction of bark is given to check uterine bleeding. Medicated oil prepared out of the flowers is good for treatment of wounds.

Adenanthera pavoniana L., Sp. Pl. 384. 1753; Roxb. Fl. Ind. 2: 370. 1832; Wight & Arn., Prodr. fl. Ind. 271. 1834; Wight, I11. t. 84. 1840; Bedd., Fl. Sylv. S., India t. 46. 1870; Hook.f., Fl. Brit. India 2:287. 1878; Gamble, Fl. Madras 418. 1919; Kostern. In Dassan. & Fobs. Rev. Handb. Fl. Ceylon 1:470. 1980; Mohanan & Henry, Fl. Thiruvananthapuram 172. 1994. *Manjadi*. (MIMOSACEAE).

Small trees; branchlets glabrous. Leaves alternate, 2-pinnate, to 30 cm long; pinnae 3-5 pairs, opposite; leaflets 5-8 pairs, oblong-elliptic, 2-3.5 x 1-1.8 cm, truncate at base, obtuse at apex, entire at margins; petiole to 10 cm long: stipules caduceus. Flowers in axillary spiciform racemes, 15-25 cm long; clustered; bracts linear; pedicels short, to 3 mm long. Calyx tube campanulate, 5-toothed, pubescent. Corolla yellow-creamy white; petals 5 to 4 mm long, lanceolate. Stamens 10, free; filaments filiform, to 3.5 mm: anthers gland-crested. Ovary subsessile; ovules numerous; style to 2 mm long. Pods 12-25 cm long, spirally coiled after dehiscence, septate, dehiscent into 2 valves. Seeds many, convex on both sides, bright red.

Fl. & Fr.: Jan-May.

Dist.: Indo – Malesia and China

Uses: Powdered seeds used externally hasten suppuration of boils in inflammation etc. A decoction of bark is a remedy for chronic rheumatism.

Calycopteris floribunda (Roxb.) Poir. In Lam. Encycl. (suppl.) 2: 41. 1811; C.B. Clarke in Hook.f. Fl. Brit. India 2: 449. 1878; Gamble, Fl. Madras 469. 1919; Mohanan & Henry, Fl. Thiruvananthapuram 181. 1994. Getonia *floribunda* Roxb., Pl. Coromandel t.87. 1798. *Pullanni*. (COMBRETACEAE).

Climbing shrubs; bark pale; stem variously twisted; brachlets tomentose. Leaves opposite, elliptic, 8-10 x 3-5 cm, rounded at base, acuminate at apex, glabrescent above and tomentose along the nerves beneath, minutely glandular-pitted below; lateral nerves 8-pairs; petiole to 1 cm long. Flowers greenish in dense axillary and terminal panicles. Calyx tube produced above the ovary, 5 mm long, lib campanulate, lobes oblong, acute. Petals 0. Stamens 10, 2-seriate; filaments subulate; anthers didymous. Ovary 1-celled; ovules 3, pendulous; style subulate. Fruit oblong, 5-ribbed, 8 mm long, tomentose, surrounded by accrescent calyx. Seed 1.

Fl. & Fr.: Dec. – Mar.

Dist: Indo-Malesia.

Uses: Stored water inside the stem is carminative.

Terminalia bellirica (Gaertn.) Roxb., Pl. Coromandel 2: 54, t. 198 1805 '*bellerica*', Wight, Icon. pl. Ind. orient. t. 91. 1838 & Ill. Ind. Bot. t. 91. 1840; Bedd., Fl. sylv. S. India t. 19. 1869; C.B. Clarke in Hook.f., Fl. Brit. India 2:445. 1878; Gamble, Fl. Madaras 463. 1919; Mohanan & Henry, Fl. Thiruvananthapuram 183. 1994. *Myrobalanus bellirica* Gaertn., Fruct. sem. Pl. 2:90.t.97. 1791. *Thanni*. (COMBRETACEAE).

Large deciduous, buttressed trees; bark blackish grey, vertically fissured; brachlets sympodial, warty. Leaves densely clustered at the end of branchlets, alternate, ovate-obovate or broadly elliptice, 10-18 x 5-10 cm, acute at base, oblique, obtuse or acute at apex, entire or subcrenulate at margins, coriaceous, glabrous; 6-8 nerved; petiole to 8 cm long. Flowers appearing along with new leaves, yellow in axillaruy spikes. Calyx tube to 1 mm long, pubescent; lobes 5, to 2 mm long, triangular. Petals 0. Stamens 10; filaments exserted, 2.5-3 mm long. Ovary 1-celled, 1.5 mm long; style to 4 mm long. Drupes subglobose, to 2.8 x 2 cm, softly tomentose, horned. Seed 1, ellipsoid, yellow.

Fl. & Fr.: Dec.–Apr.

Dist.: Indo – Malesia.

Uses: Powder of fruit rind along with honey used in cough and cold.

Syzygium cuminii (L.) Skeels, U.S.D.A. Bur. Pl. Induster. Bull. 248:2. 1912; Ashton in Dassan. & Fosb., Rev. Handb. Fl. Ceylon 2:443. 1981; Mohanan & Henry, Fl. Thiruvananthapuram 18. 1994; *Myrtus cuminii* L., Sp. Pl. 471. 1753. *Eugenia jambolana* Lam., Encycl. 3:198. 1789; Wight, Icon. pl. Ind. orient.t. 535. 1842; Duthie Hook f.. Fl. Brit. India 2:499. 1879. *Syzygium jambolanum* (Lam.) DC., Prodr. 3:259. 1828; Gamble, Fl. Madras 481. 1919. *Njaval*. (MYRTACEAE).

Medium sized trees; bark grayish-brown, reddish inside. Leaves decussate, elliptic or ovate-lanceolate, 5-12 x 2.5-6 cm, cuneate-obtuse at base, acuminate at apex, entire at margins, coriaceous, glabrous;

petiole to 2.5 cm long. Flowers in axillary and terminal panicled cymes, to 10cm long; pedicels to 4 cm long. Calyx tube turbinate, to 2 mm long, glabrous; lobes 4, obscure. Petals 4, creamy-white, orbicular, concave, fugacious. Stamens numerous; filaments subulate, 2.5 mm long, Ovary 2-celled, to 2 mm long; style subulate, filiform, to 5 mm long. Berry oblong, purple, to 2 x 1.5 cm. Seed solitary.
Fl. & Fr.: Dec. –Apr.
Dist.: Indo–Malesia, China and Australia.
Uses: Fruits used in diabetes.

CONCLUSION

The study revealed that pharmacologists, pharmacognosists, and phytochemists have screened only a few plants for their active principles. Clinical investigations take a long time and are highly expensive to analyse large numbers of plants. Hence, traditional folklore medicinal knowledge is the best source of information for preliminary screening in such instances. Even though their medicinal value and economic importance are elaborated, it is important to go for in-depth investigations particularly experimental and clinical studies for findings uses for future generations. Conservation of medicinal plant diversity of these groves is therefore most important for the management and sustainable development in maintaining the fragile ecological processes and life-support system.

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