

# OBSERVATIONS ON THE FLORA OF MADAYIPARA, A MIDLAND LATERITE HILL IN KANNUR DISTRICT, KERALA

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Hard crusts of laterite formations have been reported from a number of locations in the laterite occurring regions of the world. In India, such formations are found both in the west coast, more from Dapoli in Ratnagiri in Maharashtra to Malappuram district in Kerala, extending about 8000 ha. and in the Deccan Plateau, which is under semi - arid conditions. As early as 1807 Buchanan coined the term laterite for hardened clay called "Ittica kallu" (in vernacular Malayalam, meaning Brick - stone) occurring in Angadipuram (Malappuram district, Kerala) that is used as a building material in the northern districts (Malabar) of Kerala. The term has been widely used in



geological and pedagogical literature in the country and elsewhere. There are many theories on the formation of laterite hills. According to Prescott and Pendleton (1952), it is formed by the oxidation and precipitation of iron. Berger and Beadle (1953) suggest the formations as a result of the accumulation of iron oxide by way of deposition from highland waters. However, in India, many scientists still consider laterite formations as a horizon of a laterite soil profile and that these plateaus are exposures of a laterite horizon, resultant of the topsoil loss due to erosion (Thomas, 1979).

Geomorphologically the state of Kerala is divided into three regions, the coastal plains, the midland hills and the highland hills. The midland hills are characterised by laterite capped plateaus. The area from Malappuram district to Kasaragod district in Kerala is typically formed of these kinds of laterite hills, which also serve as a major ecosystem for many plants and animals besides serving as good watershed areas.

A laterite hill plateau can be considered as an amphibious ecosystem. The alternation of very wet and dry conditions creates an unusual ecological situation that supports a unique biota. To survive in such an ecosystem a species must be able either to tolerate a wide range of conditions, or to grow and reproduce in a short time, the wet phase providing the favourable environment for many species. It is not surprising then that many of the plants and animals found on the temporary pools on such hills are so specialized that they cannot persist for long, or even at all, outside the temporary pools. A few of these forms are narrow endemics to such restricted geographical areas.

Except for geological, geochemical and mineral exploration studies, there is very little information available on the ecology and biodiversity of laterite hills. The Flora of Calicut by Manilal and Sivarajan (1982) is the first detailed attempt to explore the laterite hillocks of Calicut district. The flora of similar habitats of Kasaragode area has been explored by Ansari (1985). However, the flora of Madayippara was not dealt in detail in the Flora of Cannanore District by Ramachandran and Nair (1988) or any other subsequent works. The study of Babu (1990) also was mainly confined to the flora of laterite hillocks of the Malappuram district. During their studies on the bladderworts (*Utricularia*) Janarthanam and Henry (1984) explored the laterite hillocks of northern Kerala also. Similarly during their study, Ansari and Balakrishnan (1994) also explored the diversity of *Eriocalon* species of the laterite hillocks of northern Kerala.

It is the explorations by some botanists such as Joseph and Sivarajan (1990), Pradeep et al. (1990, 1991) and Madusoodhanan and Singh (1992) yielded many interesting finds from the laterite hills of Madayipara and its adjacent areas. Sreekumar and Nair (1991) made an extensive survey for the grasses in the grasslands of north Malabar including Madayipara. Unnikrishnan (1995) described the ecology of sacred groves of north Malabar with a note on the laterite hills. In 2000 Jafer Palot and Khaleel made some observations on the butterfly predation by *Drosera indica*. Padmanabhan (2002) presented a comprehensive account of the laterite hillocks of northern Kerala. It highlighted the socio-ecological significance of the laterite ecosystem in depth. Jafer Palot and Radhakrishnan (2002, 2005), documented the faunal diversity of Madayipara. However, except for these occasional reports, no comprehensive ecological and faunal studies of this ecosystem have been done so far. In the present study we have made an attempt to present a checklist of plant diversity of Madayipara.

Madayipara is a flat topped hillock overlooking Payangadi town on the northern bank of Kuppam river, located in the Madayi village, at latitude 12°2' N and longitude 75°16'E, about 21 km north of Kannur town, the district headquarters of Kannur district in Kerala (Sreedharamenon, 1957; Anonymous, 1996). As noted by Logan (1887) the river Kuppam "bending slightly and passing under the guns of an old ruined fort of the Kolathiris" on the south eastern edge of Madayipara, suddenly turns due south at Payangadi and takes a course parallel to the sea to meet the larger Valapattanam river at Matakara, finally discharging in to the Lakshadweep Sea at Azhikkal. The available geo-morphological and historical data suggest that, till 1450 A.D. this river was drained into the sea, flowing west from Payangadi instead of turning south. On the northwest of Madayipara lie the wetlands of Chembullikundu and Kunhiniangalam formed by the Ramapuram River, Peruvamba River and Kawayi backwaters. On the west, at the seacoast, is situated the promontory of Ezhimala. The altitude of the Madayipara ranges from a minimum of 40 m to a maximum of 47m above sea level. The southeastern edge of the hill is slightly elevated compared to the remaining areas.

As the name suggests, the top of this hillock is a laterite plain more than 365 ha in area. On the western side of the plateau, there is an ancient temple named Vadukunda Shiva temple; a few yards away from the temple is a perennial fresh water pond, which is about 1.5 acres in extent. On the northeastern slope of the hill, is situated the Thiruvarkad Bhagavathi temple (Madayikavu) and its sacred grove, drawing thousands of devotees every year. It is a temple of the mother Goddess Kali and belongs to the royal family of Chirakkal. The entire plateau once belonged to this temple, and even now the temple festival is being celebrated on the vast expanse of the hill near the Vadukunda pond and the Kottakunnu especially during the ten day long festival of 'Pooram' in the month of March. There are remnants of a fort believed to have been occupied by the dynasty of Kolathiris and later by Tippu Sultan. The Madayipalli, one of the oldest mosques in India and believed to have been built in A.D. 1124 by Malik Ibn Dinar of Arabia, is situated on the eastern slope of the hill. Another monument of importance is the 'Jew's pond' which indicates the historical testimony of the occupation of the area by Jews between B.C. 605 and A.D. 490. The British rulers had also built a travelers bungalow in 1793 on the eastern side of the Madayipara, endowed with a rich scenic beauty of landscapes.

Geologically, the land had emerged from the sea and the plateau is rich in deposits of China clay, lignite and probably other minerals. A mining site of Kerala Clays and Ceramic Products Ltd. (KCCPL) is situated on the southwestern side of the plateau, which had extended upto the vicinity of the Shiva temple and its pond, posing serious threat to the entire ecosystem. The damage and the pollution due to mining during the past 25 years had been heavily affected the adjoining areas of Madayi and Vengara.

The area enjoys a tropical wet climate and is blessed with annual rainfall of more than 3000 mm contributed both by the Southwest monsoon during June to September and the North-East monsoon during October to November (Table-I).

An account on the flora of Madayipara is given here to provide a picture of the kind of vegetation found on the laterite hill system with which the fauna frequenting the area are associated with, and also to stress upon the importance of the uniqueness of the flora supported by such laterite hill systems, often ignored by many.

The midland hillocks of northern Kerala have its own characteristic floral composition supporting scrub jungles and cashew plantations on the hill slopes and grasslands and associated aquatic and semi-aquatic plants on the hilltops. Even though these hills are exposed directly to the sunlight and wind, they harbour rich species diversity. Recent plant explorations revealed more additions to the known plant species of the area some of which turned out to be new to science, and endemic to the locality.

The vegetation of the hillocks may be classified mainly into grasslands and scrub jungles. The grasslands can again be categorised into wet phase and dry phase grasslands based on the seasons. Altogether 512 plant species have been recorded from Madayipara (Table-2). A brief account of the floral composition of Madayipara hill is given below.

### **Grasslands**

Grasslands of Kerala have been classified into two types i.e., Low elevation grasslands and high elevation grasslands. The grasslands on the laterite hills of north Malabar are classified under low elevation dry grasslands, characterised by remarkable diversity. This type of natural grassland is the characteristic feature of the laterite hills of Kozhikode, Kannur, Kasaragod districts and the lower parts of Wayanad district. These grasslands are highly seasonal and interspersed with other herbaceous plants and scrub jungles.

A total 55 species of grasses are recorded from Madayipara hills, many more remaining to be fully identified. The common grass species are the *Eragrostis uniloides*, *Ischaemum indicum*, *Heteropogon contortus*, *Pennisetum polystachyon*, *Cynodon dactylon* and species belonging to the genera *Arundinella*, *Dimeria*, *Panicum*, *Themeda*, etc. Species of *Arundinella* form the commonest grasses during the months of October and November. The pinkish inflorescence of these grasses makes the area appear as if burnt mixed here and there with green shades. According to Agarwal (1961), *Arundinella* form a higher stage in the succession. So it can be safely stated that *Arundinella* grasses represent a higher stage in grassland development in the areas where they occur.

Recent plant explorations revealed some more new species of grasses from the laterite hills of north Malabar (Sreekumar and Nair, 1991), 11 out of 37 endemic grasses of Kerala are reported from this kind of locality. Thus, these hillocks are isolated ecological niches of conservation importance. However, a detailed account of the species association is lacking.

Grasses control erosion, and several species are well known for their rich fodder value. When the monsoon recedes, the local people start cutting grasses for use as fodder for their cattle. A small plot, containing a thick growth of *Themeda* and other species of grasses fetches about rupees three thousand per season for a landowner.

### **The Wet Phase**

The first fall of southwest monsoon during late May or early June stimulates the germination of seeds and the growth of annual plants. The first groups of plants seen are *Neanotis* spp., *Eriocaulon* spp. and grasses, followed by insectivorous plants such as *Utricularia* spp. and *Drosera indica* that dominate the land. The deep blue flowers of *Utricularia* and white flower heads of *Eriocaulon* and *Rhamphicarpa* literally paint the whole plateau in shades of blue, violet and white, amidst herbaceous plants such as *Sopubia trifida*, *Lindernia*, *Polygala elongata*, *Justicia japonica*, *Leucas* sp. and several others. The shallow depressions filled with water accommodate plants such as *Blyxa*, *Nymphoides krishnakesara*, *Marsilea minuta*, *Cryptocoryne spiralis*, *Rotala malampuzhensis*, *Rotala malabarica* and *Isoetes coromandelina*. The sparsely distributed south Indian endemic *Chamaesyce katrajensis* (syn. *Euphorbia katrajensis*) can also be observed during this phase on the laterite rocks.

Following the retreat of south west monsoon, during September, most of the early appearing plants give way to others such as *Celosia argentea*, *Sesamum orientale* and grasses such as *Arundinella* spp., *Dimeria* spp., *Ischaemum indicum*, *Panicum* spp., etc which dominate subsequently. The abundance of grasses can be noticed during this period. The wet phase lasts up to the end of November.

### **The Dry Phase**

Stronger winds during the month of January and the direct incidence of sunlight enhance the drying up process of the flora of Madayipara. The majority of the herbaceous plants dry up except for some grass species and the thorny *Lepidagathis keralaensis*, which may remain spread all over the rocky regions of the hill. The silver coloured, *Polycarpaea corymbosa* can also be seen against the black surfaces of the rocks.

### **Scrub Jungles**

The scrub jungles form the protective cover of the slopes of the hills. The thick grove adjacent to the clay mining site is one of the major vegetation patches of this hillock. The evergreen forest species like *Hydnocarpus pentandra*, *Holigraia arnottiana*, *Cinnamomum* sp. are seen in this area. *Ficus arnottiana* one of the characteristic fig tree of this kind of ecosystem is seen in the southwestern part of the Plateau. The tree is locally called 'Kallaraya' (Malayalam meaning -Rock Peepal Tree). Other fig species such as *Ficus benghalensis*, *Ficus religiosa*, *Ficus racemosa*, *Ficus tinctoria*, *Ficus exasperata* and *Ficus hispida* also support large number of frugivorous birds and bats during their fruiting season.

The small groves of *Ixora coccinea*, *Ziziphus oenoplia*, *Ziziphus rugosa* and thick clumps of *Calycopteris flouribunda* give refuge to a large number of small animals and birds in addition to providing nectar to butterflies and other insects during their flowering season. The forest dwelling species of *Stereospermum colais* is one of the major wonders of this woody area, with its large white flowers blooming during November and December. A large tree of *Careya arborea* situated in the compound of the tourist bungalow also support a large number of animals such as bats, birds, butterflies, etc.

### **Rare and endangered Plants**

The geographical and climatical features made Madayipara and the adjacent laterite hillock system in supporting a unique assemblage of species. It is the home of some unique and sparsely distributed endemic plants such as *Nymphoides krishnakasara* (Joseph and Sivarajan, 1990), *Rotala malabarica* (Pradeep et al., 1990), *Justicia ekakusuma* (Pradeep et al., 1991) and *Lepidagathis keralensis* (Madhusoodanan and Singh, 1992). *Nymphoides krishnakasara* is a small water lily appear during the wet phase in the small pools and ponds on the plateau. *Rotala malabarica* is a semi-aquatic plant seen largely in the temporary pools. *Justicia ekakusuma* (Pradeep et al., 1991), aptly named because of its nature of flower, is rare and seen in the rocky edges of the plateau. *Lepidagathis keralensis* (Madhusoodanan and Singh, 1992) described for the first time from this locality and flowers during the dry phase. It is observed that the number of *Justicia ekakusuma* has been declining drastically over the years, while other newly described species remain uniformly distributed.

*Chamaesyce katrajensis* (which now includes *Euphorbia katrajensis* var. *kasaragodensis*), is an endemic species originally described from the similar habitats of Katraja hills of Maharashtra. The beautiful small yellowish to pinkish flowers of this species is seen during the wet phase. This plant is poorly distributed and individuals of the species can be seen on the elevated portions of rocks. Only very few individuals of this species are found in Madayipara. *Curcuma oligantha* is another characteristic plant seen in the laterite habitats during the wet phase. It now includes plants described by Ansari et al. (1982) as *Curcuma kannanorensis* var. *kannanorensis* and var. *lutea*. It is also known from parts of Southern India, Sri Lanka and Myanmar. It also appears immediately after the first shower of the monsoon. Besides, the abundance of insectivorous plants such as *Drosera indica* and *Utricularia* spp. are worth mentioning.

Out of 512 species known from the Madayipara, 59 are Peninsular Indian endemics; of which 14 are narrow endemics of Kerala, confined to the laterite hillocks. Seven species are Indian endemics and 28 species are known from confined to Peninsular Indian and Sri Lanka and 13 species to Indian region and Sri Lanka. The presence of endemic species belonging to various threat categories such as *Hopea ponga*, *Capparis rheedei*, *Eriocaulon cuspidatum* and *Neanotis rheedei* are also indicate the conservation significance of the area.

Another interesting plant of this locality is the rare lycophyte, *Isoetes coromandelina* found near the temporary pools of Madayippara during the wet phase. It was once widely distributed in the wetlands and paddy fields of Kerala, but becoming rare due to changes in the habitats. *Ophioglossum* species such as *O. costatum*, *O. nudicale* and *O. gramineum* are also distributed sparsely and make their appearance during the wet phase.

The wet phase of the Laterite hillocks is the more active in terms of the appearance of plant and animals (Jafer Palot and Radhakrishnan, 2005). An analysis of the biological spectrum reveals the fact that, majority of the herbaceous members appears along with the first showers, flourish during the monsoon season, complete their life cycle towards the end of the rainy season and enter into the dormant phase by shedding their fruits/seeds or in the form of rhizomes. The dry phase is characterised by the presence of highly adapted, xerophytic plants such as *Lepidagathis*, *Chamaesyce*, etc. They may remain fresh to some extent of the summer season, and may dry up leaving the perennial rootstock.

### **Conservation**

The laterite hillock system has been facing serious danger of degradation over the years. Most part of the midland hillocks had been converted to plantations, building sites, mining sites, etc. The indiscriminate mining for laterite and soil demolishing the hillocks had been severely threatened the very existence of the biota, culture and also the water availability in most of the areas. The Madayippara and its adjacent hillocks are also not an exception. The mining for the 'china clay' has been causing severe damage to the system. It was strongly limited due to the positive intervention by the general public to some extent. However, such operations are going on in other areas. There was a proposal to mine the entire hillock of Madayippara for the lignite deposits. However, it was not yet executed due to the heavy protest from the general public.

The ecological and cultural values of the laterite hillocks of the northern Kerala have not been got the due weightage it deserves. Majority of the general public is least bothered about its unique and rich biodiversity. The Madayippara and its environs survived over these years, by supporting its rich cultural and ecological features. However, it is a matter of great concerns that, whether it could continue in preserving its feature, without getting urgent conservation measures. The rate of pollution is very high over these years. It includes wastes such as from the vehicles, dumping of all sorts of wastes from house hold garbage to plastic and industrial debris, etc. The visitors also contribute their share by dumping plastic, cans of drinks, bottles, etc.

The lack of awareness is the major reason for the pathetic condition of this type of unique ecosystem, which supports many endemic species. The local administrative bodies could do a lot in conserving this system. Adopting conservation practises such as bringing it under the protection of a community reserve only could save the Madayippara and its environs from degradation. In addition to its high scenic beauty and ecological values, its historical significance and rich cultural heritage also make it an ideal site to be conserved for the future.

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Table-2: A checklist of plant species recorded from Madayipara hill, Kannur district, Kerala. (Endemic species are marked with (#) for Kerala, (%) for Peninsular India/ Western Ghats, (@) for India. Species which are confined to phytogeographical zones such as Peninsular India and Sri Lanka are marked with (\$) and India and Sri Lanka with (+). Nomenclature and distribution data are based on Sasidharan (2004)).

Sl.	Species	Family	Malayam names
1	<i>Abrus precatorius</i>	Fabaceae	Kunni
2	<i>Abrus pulchellus</i>	Fabaceae	Kaattukunni
3	<i>Abutilon indicum</i>	Malvaceae	Vattooram/Ooram
4	<i>Acacia caesia</i> ( <i>A. intsia</i> )	Mimosaceae	VeluthaIncha/Paalincha

5	<i>Acacia pennata</i>	Mimosaceae	Kaarincha/Kakkincha
6	<i>Acalypha indica</i>	Euphorbiaceae	Kuppameni
7	<i>Acalypha racemosa</i>	Euphorbiaceae	ValiyaKuppameni
8	<i>Acampae praemorsa</i>	Orchidaceae	Thaalimaravazha
9	<i>Acanthospermum hispidum</i>	Asteraceae	Kaattunherinjil
10	<i>Achyranthes aspera</i>	Amaranthaceae	Katalaadi
11	<i>Achyranthes bidentata</i>	Amaranthaceae	Perumkatalaadi
12	<i>Adenanthera pavonina</i>	Mimosaceae	Manchadi
13	<i>Aegle marmelos</i>	Rutaceae	Koovalam
14	<i>Aerva lanata</i>	Amaranthaceae	Cheroola
15	<i>Aeschynomene americana</i>	Fabaceae	Ponthu
16	<i>Aeschynomene aspera</i>	Fabaceae	Aattukatesam/Katassi
17	<i>Aganosma cymosa</i> (\$)	Apocynaceae	
18	<i>Ageratum conyzoides</i>	Asteraceae	Appa/Kaattappa
19	<i>Aglaia elaeagnoidea</i> ( <i>A. roxburghiana</i> )	Meliaceae	Punyava
20	<i>Alangium salvifolium</i> ssp. <i>hexapetalum</i>	Alangiaceae	Ankolika
21	<i>Albizia odoratissima</i>	Mimosaceae	Kunnivaaka
22	<i>Allamanda cathartica</i>	Apocynaceae	Kolambi
23	<i>Allophylus cobbe</i>	Sapindaceae	MukkannanPeruku
24	<i>Alloteropsis cimicina</i>	Poaceae	
25	<i>Alseodaphne semecarpifolia</i> var. <i>semecarpifolia</i> (\$)	Lauraceae	Mulakunaari/Naattukulirmavu
26	<i>Alstonia scholaris</i>	Apocynaceae	Ezhilampala
27	<i>Alternanthera bettzickiana</i>	Amaranthaceae	Kaattuponnammanni
28	<i>Alternanthera sessilis</i>	Amaranthaceae	Ponnammanni/Meenamkanni
29	<i>Alysicarpus bupleurifolius</i>	Fabaceae	
30	<i>Alysicarpus vaginalis</i> var. <i>vaginalis</i>	Fabaceae	Nilaurila
31	<i>Amaranthus spinosus</i>	Amaranthaceae	Mullencheera
32	<i>Amaranthus viridis</i>	Amaranthaceae	Kuppacheera
33	<i>Amorphophallus paeniifolius</i> var. <i>paeniifolius</i>	Araceae	Kaattuchena
34	<i>Ampelocissus latifolia</i>	Vitaceae	Kaattumunthiri
35	<i>Anacardium occidentale</i>	Anacardiaceae	Kasumaavu
36	<i>Anamirta cocculus</i>	Menispermaceae	Polla/Vatolam
37	<i>Ancistrocladus heyneanus</i> (\$)	Ancistrocladaceae	Mothiravalli/Aanavalar
38	<i>Andrographis paniculata</i> (\$)	Acanthaceae	Nilaveppu
39	<i>Anisochilus carnosus</i>	Lamiaceae	Mathilkoorka/Kaattukoorka
40	<i>Anisomeles indica</i> var. <i>indica</i>	Lamiaceae	Karimthumba
41	<i>Antidesma acidum</i>	Euphorbiaceae	Asarippuli/Chiruppuli
42	<i>Antidesma buniis</i>	Euphorbiaceae	Karivetti
43	<i>Apluda mutica</i>	Poaceae	
44	<i>Apocopis mangalorensis</i> (%)	Poaceae	
45	<i>Aporosa cardiosperma</i> (\$)	Euphorbiaceae	Vetti/Echchil
46	<i>Areca catechu</i>	Arecaceae	Kavungu
47	<i>Argyreia nervosa</i>	Convolvulaceae	Saamudrappachcha
48	<i>Ariopsis peltata</i>	Araceae	Kalthaamara
49	<i>Aristolochia indica</i>	Aristolochiaceae	Urithookki/Easwaramooli
50	<i>Arundinella kannanorica</i> (#)	Poaceae	
51	<i>Arundinella metzii</i> (%)	Poaceae	
52	<i>Asystasia dalzelliana</i>	Acanthaceae	Uppiliyam/Mayithaalu
53	<i>Asystasia gangetica</i> var. <i>gangetica</i>	Acanthaceae	Uppiliyachedi
54	<i>Atlantia wightii</i>	Rutaceae	Kaattunaarakam
55	<i>Axonopus compressus</i>	Poaceae	
56	<i>Azadirachta indica</i>	Meliaceae	Aaryaveppu

57	<i>Barleria cristata</i>	Acanthaceae	Paarvathi
58	<i>Barleria prionitis</i>	Acanthaceae	Manjappaarvathi
59	<i>Benkara malabarica</i> (§)	Rubiaceae	Venkaara
60	<i>Bhidea fischeri</i>	Poaceae	
61	<i>Bidens pilosa</i>	Asteraceae	Snehakkoora
62	<i>Biophytum reinwardtii</i> var. <i>reinwardtii</i>	Oxalidaceae	Mukkutti
63	<i>Blumea membranacea</i> var. <i>membranacea</i>	Asteraceae	
64	<i>Blumea oxoydonta</i>	Asteraceae	
65	<i>Blyxa octandra</i>	Hydrocharitaceae	
66	<i>Boerhaavia diffusa</i>	Nyctaginaceae	Thazhuthaama
67	<i>Bombax ceiba</i>	Bombacaceae	Ilavu/Unnamurikku
68	<i>Brachiaria reptans</i>	Poaceae	
69	<i>Breynia vitis-idaea</i>	Euphorbiaceae	Vettadaku/Mashikkaya
70	<i>Briedelia retusa</i>	Euphorbiaceae	Mulluvenga
71	<i>Briedelia stipularis</i> (%)	Euphorbiaceae	Cherupanachchil
72	<i>Bulbophyllum sterile</i> ( <i>Bulbophyllum neilgherrense</i> ) (%)	Orchidaceae	Mookkittakkaya
73	<i>Burmanna coelestis</i>	Burmanniaceae	Moodankaakkappoo
74	<i>Butea monosperma</i>	Fabaceae	Chamatha/Plashu
75	<i>Cajanus scarabaeoides</i>	Fabaceae	Nilaththuvara
76	<i>Callicarpa tomentosa</i> (§)	Verbenaceae	Naayiththekku
77	<i>Calopogonium mucunoides</i>	Fabaceae	
78	<i>Calotropis gigantea</i>	Asclepiadaceae	Erikku
79	<i>Calycopteris floribunda</i>	Combretaceae	Kattappoo/Narayanpoo
80	<i>Canavalia gladiata</i>	Fabaceae	Vaalpayar
81	<i>Canscora diffusa</i>	Gentianaceae	Jeerakappullu
82	<i>Canscora pauciflora</i> (%)	Gentianaceae	Kanchankora
83	<i>Cansjera rheedei</i>	Opiliaceae	Cherukaanhiravalli
84	<i>Canthium coromandelicum</i>	Rubiaceae	Kataramullu
85	<i>Capparis rheedei</i> (%)	Capparaceae	Kaanakkareeram
86	<i>Capparis sepiaria</i>	Capparaceae	
87	<i>Capparis zeylanica</i>	Capparaceae	
88	<i>Capsicum annum</i>	Solanaceae	Mulaku
89	<i>Capsicum frutescens</i>	Solanaceae	Kaanthaarimulaku
90	<i>Carallia brachiata</i>	Rhizophoraceae	Venkana/Vallabham
91	<i>Cardiospermum halicacabum</i>	Sapindaceae	Uzhinja
92	<i>Careya arborea</i>	Lecythidaceae	Pezhu/Alam
93	<i>Caryota urens</i>	Arecaceae	Aanappana
94	<i>Cassia fistula</i>	Caesalpinaceae	Kanikkonna
95	<i>Catharanthus pusillus</i> (+)	Apocynaceae	Cherunithyakalyani
96	<i>Catunaregam spinosa</i>	Rubiaceae	Malankaara
97	<i>Cayratia trifolia</i>	Vitaceae	Kandalmunthiri
98	<i>Celosia argentia</i> var. <i>argentina</i>	Amaranthaceae	Mayilosikha
99	<i>Celtis philippensis</i> var. <i>wightii</i>	Ulmaceae	Bhoothakkali
100	<i>Centella asiatica</i>	Apiaceae	Muththil/Kudangal
101	<i>Centotheca lappacea</i>	Poaceae	
102	<i>Centranthera indica</i>	Scrophulariaceae	
103	<i>Centrosema molle</i>	Fabaceae	Poompaattappayar
104	<i>Cereus pterogonus</i>	Cactaceae	Kalli
105	<i>Ceropegia candelabrum</i> var. <i>candelabrum</i> (+)	Asclepiadaceae	
106	<i>Chamaecrista leschenaultiana</i>	Caesalpinaceae	Cherani
107	<i>Chamaecrista mimosoides</i>	Caesalpinaceae	Cheruthakara
108	<i>Chamaesyce hirta</i>	Euphorbiaceae	Kuzhinakhappaala



109	<i>Chamaesyce katrajensis</i> ( <i>Euphorbia katrajensis</i> var. <i>kasaragodensis</i> ) (%)	Euphorbiaceae	
110	<i>Chamaesyce thymifolia</i>	Euphorbiaceae	Cherukuzhinakhappala
111	<i>Chassalia curviflora</i> var. <i>ophioxyloides</i>	Rubiaceae	VeluthaAmalpori
112	<i>Chionanthus mala-elengi</i> ssp. <i>mala-elengi</i> (%)	Oleaceae	Malayilanji/Perumbal
113	<i>Chloris barbata</i>	Poaceae	
114	<i>Chromolaena odorata</i> ( <i>Eupatorium odoratum</i> )	Asteraceae	Communist Pachcha
115	<i>Chrysopogon aciculatus</i>	Poaceae	Snehappullu
116	<i>Cinnamomum malabratrum</i> (%)	Lauraceae	Vayana
117	<i>Cissus latifolia</i> (\$)	Vitaceae	Chunnambuvali/Narantha
118	<i>Cleome rutidosperma</i>	Capparaceae	Aaryavela/Neelavela
119	<i>Cleome viscosa</i>	Capparaceae	Manjavela
120	<i>Clerodendrum infortunatum</i> ( <i>C. viscosum</i> )	Verbenaceae	Perukilam/Vattappalam
121	<i>Clerodendrum paniculatum</i>	Verbenaceae	HanumanKireedam/Krishnamudi
122	<i>Clitoria ternatea</i>	Fabaceae	Sankupushpam
123	<i>Cocos nucifera</i>	Arecaceae	Thengu
124	<i>Combretum latifolium</i>	Combretaceae	Manjalvalli
125	<i>Commelina benghalensis</i>	Commelinaceae	
126	<i>Commelina diffusa</i>	Commelinaceae	
127	<i>Commelina erecta</i>	Commelinaceae	
128	<i>Connarus wightii</i> (%)	Connaraceae	Kureelvalli
129	<i>Corchorus aestuans</i>	Tiliaceae	
130	<i>Corchorus capsularis</i>	Tiliaceae	
131	<i>Cordia obliqua</i>	Boraginaceae	Pasamaram
132	<i>Cosmos caudatus</i>	Asteraceae	
133	<i>Cosmostigma racemosum</i>	Asclepiadaceae	Kurichchulli
134	<i>Costus speciosus</i>	Zingiberaceae	Channakkoova
135	<i>Crotalaria pallida</i> var. <i>pallida</i>	Fabaceae	Manjakkilukki
136	<i>Crotalaria quinquefolia</i>	Fabaceae	Kilukilukki
137	<i>Croton caudatus</i> var. <i>caudatus</i>	Euphorbiaceae	Umithinnikkodi
138	<i>Croton roxburghii</i> ( <i>C. laevigatus</i> )	Euphorbiaceae	Thomarayam/Somarachi
139	<i>Cryptocoryne spiralis</i>	Araceae	Thakaram
140	<i>Cryptolepis buchananii</i> (\$)	Periplocaceae	Adavippala/Cherupaalvalli
141	<i>Curculigo orchioides</i>	Hypoxidaceae	Nilappana
142	<i>Curcuma oligantha</i>	Zingiberaceae	Kaalamukham
143	<i>Curcuma zedoaria</i>	Zingiberaceae	Kaattumanjal
144	<i>Cyanotis axillaris</i>	Commelinaceae	
145	<i>Cyanotis burmanniana</i> (%)	Commelinaceae	
146	<i>Cyanotis cristata</i>	Commelinaceae	Vettilakketu/Kudumaneeli
147	<i>Cyanotis fasciculata</i> (\$)	Commelinaceae	
148	<i>Cyanotis papilionacea</i> (%)	Commelinaceae	
149	<i>Cyathula prostrata</i>	Amaranthaceae	Cherukadalaadi
150	<i>Cyclea peltata</i> (+)	Menispermaceae	Paadaththaali
151	<i>Cymbopogon flexuosus</i>	Poaceae	Theruvappullu
152	<i>Cynodon dactylon</i>	Poaceae	Karukappullu
153	<i>Cyperus castaneus</i>	Cyperaceae	
154	<i>Cyperus compressus</i>	Cyperaceae	
155	<i>Cyperus distans</i>	Cyperaceae	
156	<i>Cyrtococcum trigonum</i>	Poaceae	
157	<i>Dactyloctenium aegyptium</i>	Poaceae	Kaakkakkalu/Kavarappullu
158	<i>Dalbergia horrida</i> var. <i>horrida</i> (%)	Fabaceae	Jadavalli
159	<i>Datura stramonium</i>	Solanaceae	Ummam

160	<i>Delonix regia</i>	Caesalpinaceae	
161	<i>Dendrophthoe falcata</i>	Loranthaceae	
162	<i>Derris scandens</i>	Fabaceae	Ponnamvalli
163	<i>Desmodium gangeticum</i>	Fabaceae	Orila
164	<i>Desmodium heterocarpon</i> var. <i>heterocarpon</i>	Fabaceae	
165	<i>Desmodium heterophyllum</i>	Fabaceae	
166	<i>Desmodium scorpiurus</i>	Fabaceae	
167	<i>Desmodium triflorum</i>	Fabaceae	Nilamparanda/Cherupulladi
168	<i>Desmodium triquetrum</i>	Fabaceae	Adakkappaanal/Vellilachekki
169	<i>Dichrostachys cinerea</i>	Mimosaceae	Vidaththal
170	<i>Digitaria bicornis</i>	Poaceae	
171	<i>Digitaria ciliaris</i>	Poaceae	
172	<i>Dimeria bialata</i> (%)	Poaceae	
173	<i>Dimeria hohenackeri</i>	Poaceae	Neypullu
174	<i>Dioscorea alata</i> (@)	Dioscoriaceae	
175	<i>Dioscorea bulbifera</i>	Dioscoriaceae	
176	<i>Dioscorea hispida</i>	Dioscoriaceae	
177	<i>Dioscorea oppositifolia</i>	Dioscoriaceae	Kanjirakkizhangu
178	<i>Dioscorea pentaphylla</i>	Dioscoriaceae	
179	<i>Dioscorea wallichii</i>	Dioscoriaceae	
180	<i>Diospyros candolleana</i> (%)	Ebenaceae	Karimaram
181	<i>Diploclisia glaucaescens</i>	Menispermaceae	Malathaangi
182	<i>Diplocyclos palmatus</i>	Cucurbitaceae	Neyyuni/Aiviralkova
183	<i>Dipteracanthus prostratus</i> (@)	Acanthaceae	Thuppalpottas
184	<i>Dopatrium junceum</i>	Scrophulariaceae	
185	<i>Drosera indica</i>	Droseraceae	Azhukanni/Theeyokku
186	<i>Echinochloa colonum</i>	Poaceae	
187	<i>Eclipta prostrata</i> ( <i>E. alba</i> )	Asteraceae	Kayyonni
188	<i>Ehretia canarensis</i> (%)	Boraginaceae	
189	<i>Elatostemma cuneatum</i>	Urticaceae	
190	<i>Elephantopus scaber</i>	Asteraceae	Aanachchuvadi
191	<i>Eleusine indica</i>	Poaceae	Kaatturaagi
192	<i>Emilia sonchifolia</i>	Asteraceae	Muyalchevian
193	<i>Eragrostis tenella</i> var. <i>tenella</i>	Poaceae	
194	<i>Eragrostis tenuifolia</i>	Poaceae	
195	<i>Eragrostis unioloides</i>	Poaceae	Avilpullu
196	<i>Eragrostis viscosa</i>	Poaceae	CheruAvilpullu
197	<i>Eranthemum capense</i> var. <i>capense</i> (\$)	Acanthaceae	
198	<i>Eriocaulon cuspidatum</i> (%)	Eriocaulaceae	
199	<i>Eriocaulon heterolepis</i> (%)	Eriocaulaceae	
200	<i>Eriocaulon lanceolatum</i> (%)	Eriocaulaceae	
201	<i>Eriocaulon parviflorum</i> (%)	Eriocaulaceae	
202	<i>Eriocaulon xeranthemum</i>	Eriocaulaceae	
203	<i>Erycibe paniculata</i>	Convolvulaceae	Irumbiththali
204	<i>Erythrina variegata</i>	Fabaceae	Murikku
205	<i>Euphorbia heterophylla</i>	Euphorbiaceae	
206	<i>Euphorbia nivulia</i>	Euphorbiaceae	Ilakkalli
207	<i>Evolvulus alsinoides</i> var. <i>alsinoides</i>	Convolvulaceae	Vishnukranthi
208	<i>Evolvulus nummularius</i>	Convolvulaceae	Vellakranthi
209	<i>Falconeria insignis</i>	Euphorbiaceae	Kalmaram
210	<i>Ficus arnottiana</i> (+)	Moraceae	Kallarayaal
211	<i>Ficus benghalensis</i> var. <i>benghalensis</i>	Moraceae	Peraal
212	<i>Ficus callosa</i>	Moraceae	Kadappilavu
213	<i>Ficus exasperata</i>	Moraceae	Therakam

214	<i>Ficus heterophylla</i>	Moraceae	Vallitherakam
215	<i>Ficus hispida</i>	Moraceae	Erumanaakku/Odapparakam
216	<i>Ficus racemosa</i>	Moraceae	Aththi
217	<i>Ficus religiosa</i>	Moraceae	Arayaal
218	<i>Ficus tinctoria ssp. gibbosa</i>	Moraceae	
219	<i>Ficus tinctoria ssp. parasitica</i>	Moraceae	Kalliththi
220	<i>Flacourtia indica</i>	Flacourtiaceae	Akori/Karimulli
221	<i>Flueggea virosa</i>	Euphorbiaceae	Kooramparal
222	<i>Furcraea foetida</i>	Agavaceae	Eroppakkaitha
223	<i>Garuga pinnata</i>	Burseraceae	Annakkara
224	<i>Geissaspis cristata</i>	Fabaceae	
225	<i>Glinus oppositifolius</i>	Molluginaceae	
226	<i>Gliricidia sepium</i>	Fabaceae	Seemakkonna
227	<i>Gloriosa superba</i>	Liliaceae	Menthonni
228	<i>Glycosmis mauritiana</i>	Rutaceae	Cherupaanal
229	<i>Glycosmis pentaphylla</i>	Rutaceae	Kurumpaanal
230	<i>Gomphia serrata</i>	Ochnaceae	Valarmani/Chaavandi
231	<i>Gomphrena celosioides</i>	Amaranthaceae	Kaattuvaadamalli
232	<i>Grangea maderaspatana</i>	Asteraceae	
233	<i>Grewia nervosa</i>	Tiliaceae	Cherikkotta
234	<i>Gymnema sylvestre</i>	Asclepiadaceae	Chakkarakkolli
235	<i>Haplanthodes neilgherryensis (%)</i>	Acanthaceae	
236	<i>Hedyotis corymbosa</i> ( <i>Oldenlandia corymbosa</i> )	Rubiaceae	
237	<i>Hedyotis cyanantha (H. caerulea) (\$)</i>	Rubiaceae	
238	<i>Hedyotis herbacea</i>	Rubiaceae	
239	<i>Helicanthes elastica (%)</i>	Loranthaceae	
240	<i>Helicteres isora</i>	Sterculiaceae	Edampiri-valampiri
241	<i>Heliotropium indicum</i>	Boraginaceae	Thekkada
242	<i>Heliotropium marifolium (\$)</i>	Boraginaceae	Cheruthekkada
243	<i>Hemidesmus indicus (+)</i>	Periplocaceae	Nannaari
244	<i>Heteropogon contortus</i>	Poaceae	
245	<i>Hewittia malabarica</i>	Convolvulaceae	Vattappoonthani
246	<i>Hibiscus hispidissimus</i>	Malvaceae	Uppanachcham/Vaisyappuli
247	<i>Hibiscus surattensis</i>	Malvaceae	Cheruvaisyappuli
248	<i>Hippocratea arnottiana (\$)</i>	Hippocrateaceae	Kattadinaayakam/Mothiravalli
249	<i>Holarrhena pubescens</i>	Apocynaceae	Kudakappaala
250	<i>Holigarna arnottiana (%)</i>	Anacardiaceae	Cheral/Cheru
251	<i>Holoptelea integrifolia</i>	Ulmaceae	Aaval/Aavil
252	<i>Holostemma ada-kodien</i>	Asclepiadaceae	Adapathiyan
253	<i>Hopea ponga (%)</i>	Dipterocarpaceae	Kambakam/Urippu
254	<i>Hoppea fastigiata</i>	Gentianaceae	
255	<i>Hugonia mystax (+)</i>	Linaceae	Mothirakkanni
256	<i>Hybanthus ennaeaspermus</i>	Violaceae	
257	<i>Hydnocarpus pentandra (%)</i>	Flacourtiaceae	Marotti
258	<i>Hyptis suaveolens</i>	Lamiaceae	Naarikkadu
259	<i>Ichnocarpus frutescens</i>	Apocynaceae	Paalvalli
260	<i>Impatiens balsamina</i>	Balsaminaceae	Kasithumba
261	<i>Impatiens chinensis</i>	Balsaminaceae	Onappuvu
262	<i>Impatiens flaccida (\$)</i>	Balsaminaceae	
263	<i>Impatiens minor (%)</i>	Balsaminaceae	Cherukaasithumba
264	<i>Indigofera trifoliata</i>	Fabaceae	
265	<i>Iphigenia indica</i>	Liliaceae	
266	<i>Ipomoea cairica</i>	Convolvulaceae	Paavadappoo

267	<i>Ipomoea hederifolia</i>	Convolvulaceae	
268	<i>Ipomoea mauritiana</i>	Convolvulaceae	Thiruthaali
269	<i>Ipomoea nil</i>	Convolvulaceae	Krishnabeejam
270	<i>Ipomoea pes-tigridis</i>	Convolvulaceae	Pulichuvadi
271	<i>Ipomoea pileata</i>	Convolvulaceae	Cheruthiruthaali
272	<i>Isachne globosa</i>	Poaceae	
273	<i>Isachne miliacea</i>	Poaceae	
274	<i>Ischaemum kannanorensis</i> (#)	Poaceae	
275	<i>Ischaemum copeanum</i> (#)	Poaceae	
276	<i>Ischaemum elimalayanum</i> (#)	Poaceae	
277	<i>Ischaemum indicum</i>	Poaceae	
278	<i>Ischaemum jayachandranii</i> (#)	Poaceae	
279	<i>Ischaemum malabaricum</i> (#)	Poaceae	
280	<i>Ischaemum muticum</i>	Poaceae	
281	<i>Ischaemum pappinisseriensis</i> (#)	Poaceae	
282	<i>Ischaemum raui</i> (#)	Poaceae	
283	<i>Ischaemum zeylanicum</i> (\$)	Poaceae	
284	<i>Ixora brachiata</i> (%)	Rubiaceae	Marachcheththi
285	<i>Ixora coccinea</i> (\$)	Rubiaceae	Chekki/Cheththi
286	<i>Jasminum azoricum</i>	Oleaceae	Kaattumulla
287	<i>Jasminum malabaricum</i> var. <i>malabaricum</i>	Oleaceae	Kadambavalli/Kaattumulla
288	<i>Jatropha curcas</i>	Euphorbiaceae	Katalaavanakku
289	<i>Jatropha gossypifolia</i>	Euphorbiaceae	Chuvanna katalaavanakku
290	<i>Justicia adhatoda</i>	Acanthaceae	Aadalodakam
291	<i>Justicia ekakusuma</i> (#)	Acanthaceae	
292	<i>Justicia japonica</i> ( <i>J. simplex</i> )	Acanthaceae	
293	<i>Kalanchoe pinnata</i>	Crassulaceae	Elamulachchi
294	<i>Kammetia caryophyllata</i> (%)	Apocynaceae	
295	<i>Kyllinga brevifolia</i> var. <i>brevifolia</i>	Cyperaceae	
296	<i>Kyllinga nemoralis</i>	Cyperaceae	
297	<i>Lannea coromandelica</i>	Anacardiaceae	Karayam/Udi
298	<i>Lantana camara</i>	Verbenaceae	Arippoo/Konginippoo
299	<i>Laportea interrupta</i>	Urticaceae	Kuttikodithoova
300	<i>Leea indica</i>	Leeaceae	Manipperandi/Nhallu
301	<i>Leea macrophylla</i>	Leeaceae	
302	<i>Lepidagathis incurva</i> var. <i>incurva</i>	Acanthaceae	
303	<i>Lepidagathis keralensis</i> (#)	Acanthaceae	Paaramullu
304	<i>Leucas aspera</i>	Lamiaceae	Thumba
305	<i>Leucas biflora</i> (\$)	Lamiaceae	
306	<i>Limnophila repens</i>	Scrophulariaceae	
307	<i>Lindernia ciliata</i>	Scrophulariaceae	Cheravanaakku
308	<i>Lindernia crustacea</i>	Scrophulariaceae	Cherukakkappoo
309	<i>Lindernia hyssopioides</i>	Scrophulariaceae	Krishnappoo
310	<i>Lindernia viscosa</i>	Scrophulariaceae	
311	<i>Litsea glutinosa</i>	Lauraceae	
312	<i>Ludwigia hyssopifolia</i>	Onagraceae	Kaattukarambu
313	<i>Ludwigia octovalvis</i> var. <i>sessiliflora</i>	Onagraceae	Kaattukarambu
314	<i>Macaranga peltata</i>	Euphorbiaceae	Uppila/Vattakurukkutti
315	<i>Macrosolen parasiticus</i> (\$)	Loranthaceae	
316	<i>Mallotus philippensis</i> var. <i>philippensis</i>	Euphorbiaceae	Kurukkutti
317	<i>Mallotus repandus</i>	Euphorbiaceae	Vallikkurukkutti
318	<i>Mangifera indica</i>	Anacardiaceae	Maavu
319	<i>Martynia annua</i>	Pedaliaceae	
320	<i>Mecardonia procumbens</i>	Scrophulariaceae	

321	<i>Melastoma malabathricum</i>	Melastomataceae	Athirani
322	<i>Melicope lunu-ankenda</i>	Rutaceae	Kanala/Akilpori
323	<i>Melochia corchorifolia</i>	Sterculiaceae	
324	<i>Memecylon randerianum</i> (%)	Melastomataceae	Koovachekki
325	<i>Memecylon umbellatum</i> (\$)	Melastomataceae	Kaasavu
326	<i>Merremia umbellata</i>	Convolvulaceae	Vayaravalli
327	<i>Merremia vitifolia</i>	Convolvulaceae	Vanvayara
328	<i>Microcarpaea minima</i>	Scrophulariaceae	
329	<i>Microchloa indica</i>	Poaceae	
330	<i>Micrococca mercurialis</i>	Euphorbiaceae	Rasachedi/Kunukkaadi
331	<i>Microstachys chamaelea</i>	Euphorbiaceae	
332	<i>Mikania micrantha</i>	Asteraceae	Dhrutharashtrapacha
333	<i>Millingtonia hortensis</i>	Bignoniaceae	Maramulla
334	<i>Mimosa pudica</i>	Mimosaceae	Thottavaadi
335	<i>Mimusops elengi</i>	Sapotaceae	Elanji
336	<i>Mitracarpus hirtus</i> ( <i>M. villosus</i> )	Rubiaceae	
337	<i>Mitrasacme indica</i> ( <i>M. alsinoides</i> )	Loganiaceae	
338	<i>Mollugo pentaphylla</i>	Molluginaceae	
339	<i>Momordica dioica</i>	Cucurbitaceae	Undappaval/Kuruttupaval
340	<i>Monochoria vaginalis</i>	Pontederiaceae	Karimkoovalam
341	<i>Morinda citrifolia</i>	Rubiaceae	Manjappavatta
342	<i>Mucuna pruriens</i>	Fabaceae	Nayikkurana
343	<i>Mukia maderaspatana</i>	Cucurbitaceae	Mukkappeeram
344	<i>Murdannia crocea</i> ssp. <i>ochracea</i> (%)	Commelinaceae	
345	<i>Murdannia lanuginosa</i> (%)	Commelinaceae	
346	<i>Murdannia nudiflora</i>	Commelinaceae	
347	<i>Murdannia semiteres</i> (%)	Commelinaceae	
348	<i>Mussaenda belilla</i> ( <i>M. frondosa</i> ) (%)	Rubiaceae	Vellila
349	<i>Naravelia zeylanica</i>	Ranunculaceae	Vaathakkodi/Soothravalli
350	<i>Naregamia alata</i> (%)	Meliaceae	Nilanaarakam
351	<i>Neanotis rheedei</i> (%)	Rubiaceae	
352	<i>Neanotis tubulosa</i> (\$)	Rubiaceae	
353	<i>Neuropeltis malabarica</i> (%)	Convolvulaceae	
354	<i>Nymphoides krishnakesara</i> (#)	Menyanthaceae	
355	<i>Ocimum americanum</i>	Lamiaceae	
356	<i>Olea dioica</i> (@)	Oleaceae	Edala
357	<i>Oplismenus burmannii</i>	Poaceae	
358	<i>Oplismenus compositus</i>	Poaceae	
359	<i>Oryza rufipogon</i>	Poaceae	Varinellu
360	<i>Oryza sativa</i>	Poaceae	Nellu
361	<i>Osbeckia muralis</i> (%)	Melastomataceae	Kunhathirani
362	<i>Ottelia alismoides</i>	Hydrocharitaceae	
363	<i>Oxalis corniculata</i>	Oxalidaceae	Puliyaarila/Puliyaaral
364	<i>Pajanelia longifolia</i>	Bignoniaceae	Aazhantha/Payyaani
365	<i>Panicum brevifolium</i>	Poaceae	
366	<i>Panicum repens</i>	Poaceae	
367	<i>Paspalam scrobiculatum</i>	Poaceae	
368	<i>Passiflora foetida</i>	Passifloraceae	Poodappazham/Aaakasamuttayi
369	<i>Pavetta indica</i> var. <i>indica</i> (+)	Rubiaceae	Pavetta
370	<i>Pedaliium murex</i>	Pedaliaceae	
371	<i>Peltophorum pterocarpum</i>	Caesalpinaceae	Charakkonna
372	<i>Pennisetum polystachyon</i>	Poaceae	Meesappullu
373	<i>Peperomia pellucida</i>	Piperaceae	Vettilamashi
374	<i>Peristrophe paniculata</i>	Acanthaceae	Orukaalnondi

375	<i>Perotis indica</i>	Poaceae	
376	<i>Phaulopsis imbricata</i>	Acanthaceae	
377	<i>Phyla nodiflora</i>	Verbenaceae	Neerthippali
378	<i>Phyllanthus airy-shawii</i>	Euphorbiaceae	Keezharnelli
379	<i>Phyllanthus amarus</i>	Euphorbiaceae	Keezharnelli
380	<i>Phyllanthus reticulatus</i>	Euphorbiaceae	Neeroli
381	<i>Phyllanthus urinaria</i>	Euphorbiaceae	ChuvannaKeezharnelli
382	<i>Phyllocephalum phyllolaenum</i> (@)	Asteraceae	
383	<i>Physalis angulata</i>	Solanaceae	Mottampuli/Nhottanhodien
384	<i>Pilea microphylla</i>	Urticaceae	
385	<i>Piper nigrum</i>	Piperaceae	Kurumulaku
386	<i>Platostoma hispidum</i> ( <i>Acrocephalus hispidus</i> )	Lamiaceae	Manamillathulasi
387	<i>Plumbago zeylanica</i>	Plumbaginaceae	Thumbakkoduveli
388	<i>Plumeria rubra</i>	Apocynaceae	Eezhachempakam
389	<i>Pogostemon deccanensis</i> ( <i>Dysophylla stellata</i> )	Lamiaceae	Cherunaayithumba
390	<i>Pogostemon purpurascens</i> (@)	Lamiaceae	
391	<i>Pogostemon quadrifolius</i> ( <i>Dysophylla quadrifolia</i> ) (@)	Lamiaceae	Naayithumba/Moottakkolli
392	<i>Polyalthia korintii</i> (\$)	Annonaceae	Korinthippaanal
393	<i>Polycarpaea corymbosa</i>	Caryophyllaceae	Paarappoo
394	<i>Polygala elongata</i> (+)	Polygalaceae	AmruthanjanChedi
395	<i>Pongamia pinnata</i>	Fabaceae	Ungu
396	<i>Portulaca oleracea</i> var. <i>oleracea</i>	Portulacaceae	Uppucheera/Manali
397	<i>Pothos scandens</i>	Araceae	Aanapparuva/Meruvalli
398	<i>Pouzolzia zeylanica</i>	Urticaceae	Neycheera
399	<i>Premna serratifolia</i> ( <i>P. integrifolia</i> )	Verbenaceae	Kozhimunja
400	<i>Pseudanthistiria umbellata</i> (\$)	Poaceae	
401	<i>Pseudarthria viscida</i> (\$)	Fabaceae	Moovila
402	<i>Pseuderanthemum malabaricum</i> (\$)	Acanthaceae	Chuttimulla
403	<i>Psydrax umbellata</i>	Rubiaceae	
404	<i>Pterospermum diversifolium</i>	Sterculiaceae	
405	<i>Pterospermum rubiginosum</i> (%)	Sterculiaceae	
406	<i>Racosperma auriculiforme</i>	Mimosaceae	Acacia
407	<i>Rauwolfia serpentina</i>	Apocynaceae	Sarpagandhi/Amalpori
408	<i>Rhamphicarpa longiflora</i> (+)	Scrophulariaceae	Aarumanippoo/Anthippoo
409	<i>Rhinacanthus nasutus</i>	Acanthaceae	Puzhukkolli
410	<i>Rhynchosyris notonianum</i> (\$)	Gesneriaceae	Kilaneeli
411	<i>Rotala malabarica</i> (#)	Lythraceae	
412	<i>Rotala malampuzhensis</i> (#)	Lythraceae	
413	<i>Rothea serrata</i> ( <i>Clerodendrum serratum</i> )	Verbenaceae	Cheruthekku
414	<i>Rottboellia cochinchinensis</i>	Poaceae	
415	<i>Rungia pectinata</i>	Acanthaceae	Cheerpuchedi
416	<i>Sacciolepis interrupta</i>	Poaceae	
417	<i>Salacia chinensis</i>	Hippocrateaceae	Cherukuranti
418	<i>Salacia fruticosa</i> (%)	Hippocrateaceae	Ekanaayakam
419	<i>Salomonium ciliata</i>	Polygalaceae	NeelaAmruthanjanChedi
420	<i>Samanea saman</i>	Mimosaceae	Mazhamaram
421	<i>Santalum album</i> (%)	Santalaceae	Chandanam
422	<i>Sapindus trifoliata</i>	Sapindaceae	Soppinkaayamaram
423	<i>Schleichera oleosa</i>	Sapindaceae	Poovam
424	<i>Scoparia dulcis</i>	Scrophulariaceae	Kallurukki/Chakkarathumba
425	<i>Senna alata</i>	Caesalpiniaceae	Aanathakara/Aattuthakara

426	<i>Senna hirsuta</i>	Caesalpinaceae	
427	<i>Senna occidentalis</i>	Caesalpinaceae	Oolanthakara
428	<i>Senna siamea</i>	Caesalpinaceae	
429	<i>Senna tora</i>	Caesalpinaceae	Thakara/Chakrathakara
430	<i>Sesamum orientale (S. indicum)</i>	Pedaliaceae	Ellu
431	<i>Sesamum radiatum</i>	Pedaliaceae	Kattellu
432	<i>Setaria pumila</i>	Poaceae	
433	<i>Sida acuta</i>	Malvaceae	Aanakkurunthotti
434	<i>Sida cordata</i>	Malvaceae	Vallikkurunthotti
435	<i>Sida cordifolia</i>	Malvaceae	
436	<i>Sida rhombifolia</i>	Malvaceae	Kurunthotti
437	<i>Smilax zeylanica</i>	Smilacaceae	Kariyilanchi
438	<i>Smithia conferta</i>	Fabaceae	
439	<i>Solanum americanum</i>	Solanaceae	
440	<i>Solanum sp. (Karichunda)</i>	Solanaceae	
441	<i>Solanum torvum</i>	Solanaceae	Kattuchunda/Aanachunda
442	<i>Solena amplexicaulis</i>	Cucurbitaceae	Karuvachakka
443	<i>Sopubia delphinifolia</i>	Scrophulariaceae	Kunhikkolambi
444	<i>Sopubia trifida</i>	Scrophulariaceae	
445	<i>Spermacoce articularis</i>	Rubiaceae	
446	<i>Spermacoce latifolia</i>	Rubiaceae	
447	<i>Spermacoce ocymoides</i>	Rubiaceae	
448	<i>Spermacoce pusilla</i>	Rubiaceae	
449	<i>Spodiopogon rhizophorus (@)</i>	Poaceae	
450	<i>Sporolobus indicus var. diander</i>	Poaceae	
451	<i>Stachytarpheta jamaicensis</i>	Verbenaceae	Seemakkongini
452	<i>Staurugyne glauca</i>	Acanthaceae	
453	<i>Sterculia guttata</i>	Sterculiaceae	Kaavalam/Thenpokka
454	<i>Stereospermum colais</i>	Bignoniaceae	
455	<i>Striga angustifolia</i>	Scrophulariaceae	
456	<i>Striga asiatica (S. lutea)</i>	Scrophulariaceae	
457	<i>Striga gesnerioides</i>	Scrophulariaceae	
458	<i>Strychnos nux-vomica</i>	Loganiaceae	Kanjiram
459	<i>Strychnos vanprukii (S. aenea) (%)</i>	Loganiaceae	Vallikkanjiram
460	<i>Stylosanthes fruticosa</i>	Fabaceae	
461	<i>Symphorema involucreatum</i>	Symphoremataceae	
462	<i>Synedrella nodiflora</i>	Asteraceae	Mudiyanpachcha
463	<i>Syzygium caryophyllatum (\$)</i>	Myrtaceae	Kurumkani/Cherunhaara
464	<i>Syzygium cumini var. cumini</i>	Myrtaceae	Nedumkani/Njaaval
465	<i>Tabernaemontana alternifolia (%)</i>	Apocynaceae	Koonanpaala
466	<i>Tamarindus indica</i>	Caesalpinaceae	Pulimaram
467	<i>Tectona grandis</i>	Verbenaceae	Thekku
468	<i>Tephrosia pupurea</i>	Fabaceae	Kozhinjil
469	<i>Terminalia bellirica</i>	Combretaceae	Thaanni
470	<i>Terminalia catappa</i>	Combretaceae	Thalli
471	<i>Terminalia paniculata (%)</i>	Combretaceae	Venmaruthu
472	<i>Themeda triandra</i>	Poaceae	
473	<i>Tinospora cordifolia</i>	Menispermaceae	Chittamruthu/Amruthu
474	<i>Tinospora sinensis</i>	Menispermaceae	Kaatamruthu
475	<i>Tragia involucrata (+)</i>	Euphorbiaceae	Kodithoova
476	<i>Trema orientalis</i>	Ulmaceae	Aamathaali/Vedikkari
477	<i>Trichosanthes nervifolia (+)</i>	Cucurbitaceae	Kaattupadavalam
478	<i>Trichosanthes tricuspidata var. tricuspidata</i>	Cucurbitaceae	Kaakkathondi
479	<i>Tridax procumbens</i>	Asteraceae	Odiyanpachcha

480 *Triumpheta rhomboidea*  
 481 *Turnera subulata*  
 482 *Tylophora indica* var. *indica*  
 483 *Typhonium flagelliforme*  
 484 *Typhonium roxburghii*  
 485 *Urena lobata* ssp. *lobata*  
 486 *Urena lobata* ssp. *sinuata*  
 487 *Utricularia cecillii* (%)  
 488 *Utricularia graminifolia* (+)  
 489 *Utricularia lazulina* (%)  
 490 *Utricularia malabarica* (#)  
 491 *Utricularia reticulata* (+)  
 492 *Utricularia striatula*  
 493 *Utricularia uliginosa*  
 494 *Uvaria narum* (\$)  
 495 *Vernonia cinerea*  
 496 *Vigna trilobata*  
 497 *Vitex altissima*  
 498 *Vitex negundo* var. *purpurascens*  
 499 *Vitex trifolia*  
 500 *Waltheria indica*  
 501 *Wattakaka volubilis*  
 502 *Wedelia trilobata*  
 503 *Wrightia tinctoria*  
 504 *Xenostegia tridentata* ssp. *hastata*  
 505 *Xenostegia tridentata* ssp. *tridentata*  
 506 *Xyris pauciflora*  
 507 *Zanthoxylum rhetsa*  
 508 *Zingiber zerumbet*  
 509 *Zizyphus mauritiana*  
 510 *Zizyphus oenoplea*  
 511 *Zizyphus rugosa*  
 512 *Zornia gibbosa*

Tiliaceae  
 Turneraceae  
 Asclepiadaceae  
 Araceae  
 Araceae  
 Malvaceae  
 Malvaceae  
 Lentibulariaceae  
 Lentibulariaceae  
 Lentibulariaceae  
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 Lentibulariaceae  
 Lentibulariaceae  
 Annonaceae  
 Asteraceae  
 Fabaceae  
 Verbenaceae  
 Verbenaceae  
 Verbenaceae  
 Sterculiaceae  
 Asclepiadaceae  
 Asteraceae  
 Apocynaceae  
 Convolvulaceae  
 Convolvulaceae  
 Xyridaceae  
 Rutaceae  
 Zingiberaceae  
 Rhamnaceae  
 Rhamnaceae  
 Rhamnaceae  
 Fabaceae

Manjauthiram  
 Cheravathaali  
 Vallippaala  
 Kaakkappalunku  
 Kaakkappalunku  
 Uthiram  
 Uthiram  
  
 Kaakkappoo/Nellippoo  
  
 Narumpanal  
  
 Kaatuzhunnu  
 Mayila  
 Karinochchi  
 Nochchi  
  
 Vattakkaakkakodi  
 kammalpoo  
 Danthappaala  
 Cheruvayara  
 Prasaarini/Thalaneeli  
  
 Kumittimaram/Kuyilimaram  
 Narikkarimbu/Kaattinchi  
 Elantha  
 Cheruthudali  
 Vanthudali  
 Kozhuppa

## International Vulture Awareness Day



In connection with the International Vulture Awareness Day, MNHS organized a meeting on