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Lists of Species

Leaf classes, foliar phenology and life forms of selected woody species from the tropical forests of central and southern Eastern Ghats, India

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Abstract: A checklist of selected woody species of Angiosperms is provided with the aim of classifying their life forms, foliar phenology and leaf classes from the tropical forests of central and southern Eastern Ghats, India. Though there are checklists available for the plants of the Eastern Ghats, a comprehensive listing of quantitative foliar measurements as done in other parts of the world, leading to valuable inputs for Plant Functional Type (PFT) classification, has not thus far been done for this key biogeographic zone of India. The list, gathered from 388 individual plants through the study area, encompasses 156 species and 3 infraspecific taxa which belong to 116 genera and 50 families. Of the total 159 taxa, 83 are evergreen and 76 are deciduous. 135 taxa are trees, 13 are shrubs 10 are climbing shrubs and one hemiparasite. Among the leaf classes of species, mesophyll dominated with 87 species, followed by notophyll (39), microphyll (24) and macrophyll (9). Hence, quantitative leaf trait measurements for selected woody species and the methodology for such studies in the tropics is the unique contribution of the present paper to the existing state-of-the-art.

Introduction

Understanding vegetation through plant functional types (PFTs) is important at a time of increased international concern on deforestation and fragmentation of forests strongly influenced by human impact. Leaves play a major role in the functional classification of plants because important functions such as photosynthesis, respiration and transpiration that greatly modify the morphology of the leaves and, in turn, the plant, occur here. Leaves closely interact with external environment and can be grouped into PFTs (Wright *et al.* 2004). As demonstrated clearly by Wright *et al.* (2004; 2005) and Barboni *et al.* (2004), actual trait measurements and analyses do add a distinct dimension to the field of functional ecology, especially from the point of view of conservation and management of forests and/or natural and human modified ecosystems (Lavorel *et al.* 1999; Landsberg *et al.* 1999). Functional grouping of species is also relevant for vegetation dynamics models that use leaf trait measurements for modeling global climate change and subsequent shifts in vegetation boundaries due to shifts of land use and climate change (Reich *et al.* 1997; Moorcroft *et al.* 2001; Bonan *et al.* 2002; Wright *et al.* 2004).

Though the Indian subcontinent, with its rich biodiversity, is one of the 12 mega-diversity regions in the world (McNeely *et al.* 1990), the high rate of degradation and change of forest cover, due to the so called developmental activities and the ever increasing human population in the forested areas (Jayakumar *et al.* 2002) results in increasing species loss that could lead to ecosystem collapse (Naeem 2002; Wackernagel *et al.* 2002). These changes have a number of effects on ecosystem processes (Naeem *et al.* 1999) and local populations in this region (Rao and Pullaiah 2007). Anthropogenic pressure in the form of clearing forest for mining, constructing tourist resorts and estate buildings, felling of selected trees for firewood, household furniture, fencing and for making minor agricultural implements (Kadavul and Parthasarathy 1999 a, b) leads to forest degradation and deforestation (Balaguru *et al.* 2006). It has been established by different studies (Hooper and Vitousek 1997, 1998; Tilman *et al.* 1997; Hooper *et al.* 2005; McLaren 2006) that the functional roles of plant species have to be first understood, to establish their ecological niche in the complex process of ecosystem dynamics, to arrive at any means of forest conservation. Though there are some checklists available for the plant species of the Eastern Ghats (Muthumperumal and Parthasarathy 2009; Pragasan and Parthasarathy 2009; Reddy *et al.* 2009), the unique contribution of the present paper to the existing state-of-the-art is to present, for a selection of these species, comprehensive quantitative foliar measurements as done in other parts of the world (Roderick *et al.* 1999; Wright *et al.* 2004) leading to valuable inputs towards an eventually more rigorous PFT classification, for this key biogeographic zone of India; a definitive protocol for such measurements, rare to non existent in the Indian context is an important methodological by-product.

Materials and Methods

Study area

The Eastern Ghats (10° to 22° N ; 76°50' to 86°30' E) is a discontinuous range of mountains along the eastern coast of Peninsular India extending through the states of Orissa (25% of the range area), Andhra Pradesh (48%), Karnataka (2%) and Tamil Nadu (24%) (Figure 1). It falls in one of the 10 biogeographic zones of India (Rodgers and Panwar 1988) and also in one of the 8 phytogeographical regions of India (Chatterjee 1939) renamed as eco-floristic zones (Blasco 1979). The Eastern Ghats including lowland areas encompasses an area of *ca.* 260,000 km^2. Its area of extent is 1,130 km North-South and 1,050 km East-West. Based on geological and tectonic considerations, this mountain range is formed of four sections or provinces that are not fully or clearly established (Krishnan 1961; 1974; Meher-Homji 2001; Dobmeier and Raith 2003; Mukhopadhyay and Basak 2009). The Eastern Ghats, falling under tropical monsoon climate, receives rainfall from both south-west monsoon and north-east retreating monsoon. The natural vegetation, though primarily dominated by tropical deciduous species, may be grouped into Evergreen forests, Tropical semi-evergreen forests, Tropical moist deciduous forests, Dry deciduous forests, Tropical dry evergreen forests and Dry evergreen scrubs (Champion and Seth 1968; Legris and Meher-Homji 1984; Pragasan and Parthasarathy 2009).

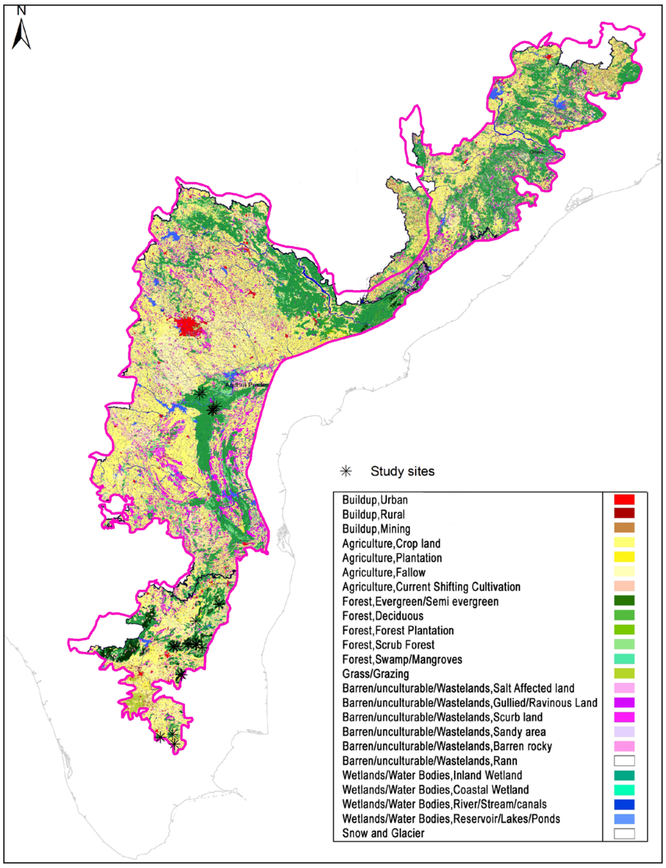

Figure 1. Map showing the study sites of central and southern Eastern Ghats (modified after NRSC (2006)).

The present study focuses on the area consisting of the Nallamalai hills (Andhra Pradesh) section of central Eastern Ghats and Javadi, Kalrayan, Chitteri, Shevaroy, Kolli and Pachamalai hills (Tamil Nadu) section of southern Eastern Ghats (Figure 1). The study sites were selected based on the floristic composition and priority of conservation (Kadavul and Parthasarathy. 1999a, b; Jayakumar *et al.* 2002; Natarajan *et al.* 2004; Soosairaj *et al.* 2004, 2007; Reddy *et al.* 2008; Pragasan and Parthasarathy 2009). Out of 38 sites, 30 sites are from the disjunct hillocks of the southern Eastern Ghats and 8 sites from the more or less contiguous Nallamalai hills of central Eastern Ghats representative of the major vegetation types of the region (Reddy *et al.* 2008). Although the altitude of these studied sites ranges from 16 to 1362 m a.s.l., the variations in the mean annual rainfall are within the narrow range of 800 to 1100 mm only.

Data Collection

Leaf trait measurements were carried out and phenology observed on a set of plant species selected based on the following criteria: 1) woody species, mainly trees and also some important shrubs and lianas were selected; 2) simple leaves were selected preferentially not only for ease of measurements but also because the existing protocols for trait measurements recommended this (Turner and Tan, 1991; Roderick *et al.* 1999; Cornelissen *et al.* 2003); 3) some species with large compound leaves were also chosen, as species with compound leaves were dominant in the study area (Reddy *et al.* 2009) – further because it is important to standardize the protocol as well. Phenology observations were cross-checked, where required, with record of individuals in the herbarium of French Institute of Pondicherry (HIFP).

Standard protocols proposed by Cornelissen *et al.* (2003); Garnier *et al.* (2001) and Roderick *et al.* (1999) have been adopted with minor changes for leaf trait measurements. Leaf-size was determined using the geometric leaf-size classification of Raunkiaer (1934) as modified by Webb (1959) and recently by Gillison (2002). Six leaf classes were recognized by Raunkiaer (1934). This was later modified into seven by the addition of one more leaf size class 'notophyll' by Webb (1959). Recently Gillison (2002) recognized 10 leaf size classes (Table 1). Floras such as Hooker (1872-1879), Gamble and Fischer (1915-1935), Nair and Henry (1983), Henry *et al.* (1987)

Table 1. Derivation and correspondence of leaf categories used in study and the leaf classes found in the study area highlighted.

CATEGORY	DIMENSIONS (MM^2)	RAUNKIAER (1934)	WEBB (1959)	GILLISON (2002)
1				No repeating leaf units
2	< 2			Picophyll
3	2–25			Leptophyll
4	25–225	Nanophyll	Nanophyll	Nanophyll
5	225–2025	Microphyll	**Microphyll**	Microphyll
6	2025–4500		**Notophyll**	Notophyll
7	4500–18,200		**Mesophyll**	Mesophyll
8	18,200–36,400		**Macrophyll**	Platyphyll
9	36,400–18 x 10^4			Macrophyll
10	> 18 x 10^4	Megaphyll	Megaphyll	Megaphyll

and Matthew (1983) were used for identification of plant species. Voucher specimens were collected and confirmed with the HIFP and deposited there. We have used APG III (2009) classification for enumeration of families. Leaf size, thickness and weight were measured on the field using hand drawn sketches, thickness gauge and portable weighing machine respectively. The hand drawn sketches were brought to the lab and the area was measured using foliar surface area calculation software developed by French Institute of Pondicherry. Leaf area alone is considered for the leaf size classification in this study.

Totally, 143 species with simple leaves and 16 species with compound leaves were selected for the present study. For simple leaves, four mature "full sun" leaves (Cornelissen *et al.* 2003) were measured from every individual. Similarly for compound leaves, leaflet from the species was considered as the unit of study as it is analogous to the simple leaf (Raunkiaer 1934; Cain *et al.* 1956). The average value was taken as final value for the individual. Southern Eastern Ghats were sampled during February to April 2007 whereas Central Eastern Ghats were sampled in January 2008. All leaf samples were collected between 09:00 h and 14:00 h in order to avoid any effect of temperature, irradiance or vapour pressure deficit of the air on the leaf traits. For most of the species, photographic documentation was carried out and is presented (Figures 2-10), with an emphasis on the species not photo-documented previously. Pearson's correlation coefficient test (parametric test) was done to know the correlation between various parameters in XLStat®. Official permissions to carry out the field works for this study were provided by the Headquarters and Divisional offices of the forest departments of Andhra Pradesh and Tamil Nadu.

Results and Discussion

388 individuals from 38 sites of southern and central Eastern Ghats were measured for leaf traits (Figure 1; Supporting Information). This represented 156 species and 3 infraspecific taxa which fall under 116 genera, 50 families and four leaf classes (Table 2).

Of the 159 woody species that were studied, 135 were trees, 13 were shrubs 10 were climbing shrubs and one hemiparasite (Table 2). Among the different life forms, 54% of the taxa measured were mesophyllous, while 25% were notophyllous, 15% microphyllous, and only 6% were macrophyllous (Table 2). The higher proportion of mesophylls and the moderate proportions of microphylls and notophylls are characteristic features of tropical regions (Cain *et al.* 1956; Cain and de Oliveira Castro 1959; Richards 1957; Webb 1959; Malhado *et al.* 2009) and this is true for our study area. In the list, leaves of two species of *Bauhinia* (*B. racemosa* and *B. vahlii*) are considered as simple as in Saldanha (1984) though most of the taxonomists term them compound.

Reddy *et al.* (2009) studied the tree wealth of Eastern Ghats of Andhra Pradesh and came up with an updated list of 510 tree species, of which 135 are with compound leaves. The present study includes 68 species from central Eastern Ghats of which 62 species are listed by Reddy *et al.* (2009) and of which 9 are with compound leaves; the remaining species are climbing shrubs (5) and shrub (1) (Table 2). Foliar phenology and leaf classes of 68 species from central Eastern Ghats are new additions to the existing list of species by Reddy *et al.* (2009). In our study 10 species of climbing shrubs are included. Out of these 10 species, 5 are from southern Eastern Ghats, 4 are from central Eastern Ghats, 1 species (*Hiptage benghalensis*) occurs both in southern as well as central Eastern Ghats. Pragasan and Parthasarathy (2009) reported 272 species from tropical forests of southern Eastern Ghats of Tamil Nadu. The present checklist covers only 134 species from southern Eastern Ghats; however 40 species were not listed in that earlier study (Table 2).

Table 2. Enumeration of life form, phenology, leaf form and leaf class of selected woody species from the hills of the southern and central Eastern Ghats, India. (T: tree; S: shrub; CS: climbing shrub; HP: hemiparasite; D: deciduous; E: evergreen; Si: Simple leaves; C: Compound leaves; Mi: microphyll; N: notophyll; Me: mesophyll; Ma: macrophyll; *Herbier Institut Français de Pondichéry. Highlighted species are hitherto new report to Eastern Ghats).

S. NO.	BOTANICAL NAME	LIFE FORM	PHENOLOGY	LEAF FORM	LEAF CLASS	* HIFP NO.
Anacardiaceae						
1	*Buchanania axillaris* (Desr.) Ramam.	T	D	Si	N	24391, 24404, 25336
2	*Buchanania lanzan* Spreng.	T	E	Si	Me	24435, 24499, 24514, 24525
3	*Mangifera indica* L.	T	E	Si	Me	24480, 25519, 24534
4	***Nothopegia beddomei* Gamble**	T	E	Si	N	24507, 25458
5	*Nothopegia heyneana* (Hook. f.) Gamble	T	E	Si	Mi	25814
6	*Semecarpus anacardium* L. f.	T	D	Si	Ma	24423, 24577
Annonaceae						
7	***Miliusa tomentosa* (Roxb.) J. Sinclair**	T	E	Si	Mi	24413
8	*Polyalthia cerasoides* (Roxb.) Bedd.	T	D	Si	Me	24483, 25290, 24561, 24580
9	***Uvaria narum* Wall.**	CS	E	Si	Me	25522
Apocynaceae						
10	*Holarrhena pubescens* Wall.	T	D	Si	Me	24569
11	*Wrightia arborea* (Dennst.) Mabb.	T	D	Si	Me	25292
12	*Wrightia tinctoria* (Roxb.) R. Br.	T	D	Si	Me	24442, 24564
Araliaceae						
13	*Schefflera stellata* (Gaertn.) Harms	CS	E	C	Me	24430
Asteraceae						
14	*Vernonia arborea* Buch.-Ham.	T	D	Si	Ma	24471

Table 2. *Continued.*

S. NO.	BOTANICAL NAME	LIFE FORM	PHENOLOGY	LEAF FORM	LEAF CLASS	* HIFP NO.
Bignoniaceae						
15	*Stereospermum personatum* (Hassk.) Chatterjee	T	D	C	N	24521
Boraginaceae						
16	*Cordia dichotoma* Forst.	T	D	Si	Me	24539, 24552, 25308, 24573
17	*Cordia macleodii* Hook. f et Thoms.	T	D	Si	Me	24398
18	*Cordia wallichii* G. Don	T	D	Si	Ma	25318
19	*Ehretia canarensis* (Clarke) Gamble	T	D	Si	Me	24545, 24562
20	***Ehretia laevis* Roxb.**	T	D	Si	N	24392
21	***Ehretia ovalifolia* Hassk.**	T	D	Si	N	25807
Burseraceae						
22	*Commiphora berryi* (Arn.) Engler	T	D	C	N	24563
Buxaceae						
23	***Sarcococca trinervia* Wight**	S	E	Si	Me	24492
Caprifoliaceae						
24	***Viburnum punctatum* Ham. ex G. Don**	T	E	S	Me	24493
Celastraceae						
25	*Cassine glauca* (Rottb.) Kuntze	T	E	Si	Me	24400, 25311
26	***Celastrus paniculatus* Willd.**	CS	D	Si	N	24567
27	*Maytenus emarginata* (Willd.) Ding Hou	S	D	Si	N	24421, 24512, 25512,25730
Clusiaceae						
28	***Garcinia spicata* (Wight and Arn.) Hook. f.**	T	E	Si	Me	24370
Combretaceae						
29	*Anogeissus latifolia* (Roxb. ex DC.) Wall. ex Guill. and Perr.	T	D	Si	Me	24382, 24395, 24427, 25734, 24543
30	***Terminalia alata* Heyne ex Roth.**	T	D	Si	Me	24393, 24424, 24574
31	*Terminalia arjuna* (Roxb. ex DC.) Wight and Arn.	T	D	Si	Me	25321, 25517, 24530
32	*Terminalia chebula* Retz.	T	D	Si	Me	24425
33	*Terminalia paniculata* Roth.	T	D	Si	Me	25304
Cornaceae						
34	*Alangium salvifolium* (L. f.) Wang.	T	D	Si	N	24565
Daphniphyllaceae						
35	***Daphniphyllum neilgherrense* (Wt.) Rosenth**	T	E	Si	Me	24490
Dipterocarpaceae						
36	***Shorea tumbaggaia* Roxb.**	T	E	Si	Me	24418
Ebenaceae						
37	***Diospyros angustifolia* (Miq.) Kosterm**	T	E	Si	Mi	24466
38	*Diospyros chloroxylon* Roxb.	T	E	Si	Me	24554, 25302
39	*Diospyros ebenum* J. Koenig ex Retz.	T	E	Si	N	25815
40	*Diospyros melanoxylon* Roxb.	T	D	Si	Me	24397, 25509, 25315
41	*Diospyros montana* Roxb.	T	D	Si	Mi	24403, 24449
42	*Diospyros ovalifolia* Wight	T	E	Si	N	24463, 24476
43	***Diospyros peregrina* (Gaertn.) Gurke**	T	E	Si	Me	25819
Elaeocarpaceae						
44	*Elaeocarpus serratus* L.	T	E	Si	Me	25310, 24494, 24495
Ericaceae						
45	*Vaccinium neilgherrense* Wt.	S	E	Si	Mi	24486
Erythroxylaceae						
46	*Erythroxylum monogynum* Roxb.	T	D	Si	Mi	24409, 24405, 24450, 24518, 25316, 24584
Euphorbiaceae						
47	***Antidesma montanum* Blume**	T	E	Si	Me	24497
48	*Bischofia javanica* Blume	T	E	C	Me	25289
49	***Bridelia retusa* (L.) Spreng.**	T	D	Si	Me	24550, 24551
50	*Croton laccifer* L.	T	D	Si	Me	24467
51	*Drypetes sepiaria* (Wight and Arn.) Pax and K. Hoffm.	T	E	Si	Mi	24380, 24388, 24445, 25456, 25731
52	*Euphorbia nivulia* Buch-Ham	T	D	Si	N	24369
53	***Flueggea leucopyrus* Willd.**	S	D	Si	Mi	24406
54	*Glochidion ellipticum* Wight	T	E	Si	Me	25326
55	***Macaranga peltata* (Roxb.) Muell.-Arg.**	T	E	Si	Ma	25735

Table 2. *Continued.*

S. NO.	BOTANICAL NAME	LIFE FORM	PHENOLOGY	LEAF FORM	LEAF CLASS	* HIFP NO.
56	*Mallotus philippensis* (Lam.) Muell.-Arg.	T	E	Si	Me	25325, 25238, 25520, 24529
57	***Mallotus resinosus*** **(Blanco) Merr.**	T	E	Si	N	24462
58	*Putranjiva roxburghii* Wall.	T	E	Si	N	24475
59	***Suregada lanceolata*** **(Willd.) Kuntze**	T	E	Si	Mi	24378
Fabaceae						
60	*Bauhinia racemosa* Lam.	T	D	Si	Mi	24447, 24448, 25335, 24558
61	***Bauhinia vahlii*** **Wight and Arn.**	CS	D	Si	Ma	24533
62	*Butea monosperma* (Lam.) Taub.	T	D	C	Me	24570
63	*Hardwickia binata* Roxb.	T	D	C	Mi	25816
64	*Pongamia pinnata* (L.) Pierre	T	D	C	Me	25732, 24526
Lauraceae						
65	*Alseodaphne semecarpifolia* Nees.	T	E	Si	N	25808
66	***Beilschmiedia wightii*** **(Nees.) Benth. ex J. Hk.**	T	E	Si	Me	24464
67	*Cinnamomum malabathrum* (Burm. f.) Blume	T	E	Si	Me	25237
68	***Cryptocarya neilgherrensis*** **Meisner**	T	E	Si	Me	24470
69	*Litsea deccanensis* Gamble	T	E	Si	Me	24436, 24469, 24508
70	*Litsea oleoides* (Meisner) Hook. f.	T	E	Si	Me	24456
71	*Neolitsea cassia* (L.) Kosterm.	T	E	Si	Me	25231, 24457
72	*Persea macrantha* (Nees.) Kosterm.	T	E	Si	Me	25309, 24489
73	***Phoebe paniculata*** **Nees.**	T	E	Si	Me	24458
Lecythidaceae						
74	*Careya arborea* Roxb.	T	D	Si	Ma	24437
Linaceae						
75	*Hugonia mystax* L.	CS	E	Si	Mi	24416, 25234
Loganiaceae						
76	***Strychnos minor*** **Dennst.**	CS	E	Si	Mi	25817
77	*Strychnos nux-vomica* L.	T	D	Si	N	24443, 25467, 25460
78	*Strychnos potatorum* L. f.	T	D	Si	N	24387, 24426, 24538, 24547, 25305
Loranthaceae						
79	*Dendrophthoe falcata* (L. f.) Ettingsh	HP	D	Si	Me	24559
Malpighiaceae						
80	***Hiptage benghalensis*** **(L.) Kurz.**	CS	E	Si	Me	24472, 24522
Malvaceae						
81	*Grewia orbiculata* Rottl.	T	D	Si	N	24394, 24379
82	*Helicteres isora* L.	S	D	Si	Me	24439
83	*Kydia calycina* Roxb.	T	D	Si	Me	24566
84	*Pterospermum canescens* Roxb.	T	E	Si	Me	25303
85	*Pterospermum reticulatum* Wight and Arn.	T	E	Si	N	24371, 24376, 24452
Melastomataceae						
86	***Memecylon talbotianum*** **Brandis**	T	E	Si	N	25287, 24502
87	***Memecylon umbellatum*** **Burm. f.**	S	E	Si	Mi	24366, 24385, 24374, 25329, 25235, 25312, 25726, 24727, 25298
Meliaceae						
88	*Cipadessa baccifera* Miq.	S	D	C	N	25805
89	*Soymida febrifuga* (Roxb.) A. Juss.	T	D	C	N	25314
90	*Walsura trifolia* (A. Juss.) Harms	T	E	C	N	24417
Moraceae						
91	*Ficus amplissima* J. E. Smith	T	D	Si	N	25813
92	***Ficus arnottiana*** **(Miq.) Miq.**	T	D	Si	Me	24399
93	*Ficus beddomei* King	T	E	Si	Me	25804
94	*Ficus benghalensis* L.	T	D	Si	Me	24557, 24571, 24575
95	*Ficus drupacea* Thunb.	T	E	Si	Me	25328
96	*Ficus microcarpa L. f.*	T	E	Si	N	25313
97	*Ficus mollis* Vahl.	T	E	Si	Me	24432, 24446
98	*Ficus racemosa* L.	T	D	Si	N	24478, 24583
99	*Ficus religiosa* L.	T	D	Si	Me	24553
100	***Ficus tsjahela*** **Rheede ex Burm. f.**	T	D	Si	Me	24528, 24560
101	*Ficus virens* Ait.	T	E	Si	Me	24465, 24531
102	*Streblus asper* Lour.	T	E	Si	Mi	25331, 25733

Table 2. *Continued.*

S. NO.	BOTANICAL NAME	LIFE FORM	PHENOLOGY	LEAF FORM	LEAF CLASS	* HIFP NO.
Myristicaceae						
103	*Myristica dactyloides* Gaertn.	T	E	Si	Me	25330
Myrtaceae						
104	***Syzygium alternifolium* (Wight) Walp.**	T	D	Si	Me	24419
105	*Syzygium cumini* (L.) Skeels	T	E	Si	N	24372, 25322, 24496, 24517, 25518, 24527, 24556, 25307, 24585
Ochnaceae						
106	*Ochna obtusata* DC.	T	D	Si	Me	24401
Olacaceae						
107	***Olax scandens* Roxb.**	CS	D	Si	Mi	25299
Oleaceae						
108	*Chionanthus mala-elengi* (Dennst.) P. S. Green	T	E	Si	N	25812
109	*Chionanthus ramiflora* Roxb.	T	E	Si	Me	24414, 24461, 25332, 24513
110	*Chionanthus zeylanica* L.	T	E	Si	N	24367, 24407
111	*Ligustrum perrottetii* DC.	S	E	Si	Mi	25323, 24487, 25333
112	***Olea dioica* Roxb.**	T	E	Si	N	24434
113	***Olea glandulifera* Wall. ex. G. Don**	T	E	Si	Me	25236, 24474
Primulaceae						
114	*Ardisia solanacea* Roxb.	S	E	Si	Me	25286
115	***Embelia ribes* Burm. f.**	CS	E	Si	Me	25811
116	*Maesa indica* (Roxb.) DC.	T	E	Si	Me	25230, 24454, 24504
117	*Rapanea wightiana* (Wall. ex DC.) Mez.	T	E	Si	Mi	24491
Rhamnaceae						
118	*Ziziphus rugosa* Lam.	CS	E	Si	Me	24532
119	*Ziziphus xylopyrus* (Retz.) Willd.	T	D	Si	N	24544
Rosaceae						
120	*Prunus ceylanica* (Wight) Miq.	T	E	Si	Me	25327
Rubiaceae						
121	*Catunaregam torulosa* (Dennst.) Tirveng.	T	D	Si	N	25806
122	***Gardenia gummifera* L. f.**	T	D	Si	Mi	25818
123	***Gardenia latifolia* Ait.**	T	D	Si	Ma	24519, 24520, 25301
124	*Gardenia resinifera* Roth.	T	D	Si	Me	24386, 24420, 24451, 25729, 24524, 25296, 25317
125	*Haldina cordifolia* (Roxb.) Ridsdale	T	D	Si	Ma	24576
126	*Hymenodictyon orixense* (Roxb.) Mabb.	T	D	Si	Me	24506
127	*Ixora pavetta* Andr.	T	E	Si	Me	24415, 24477, 24482, 24515, 25510, 24523
128	*Mitragyna parvifolia* (Roxb.) Korth.	T	D	Si	Me	24555, 25306
129	*Morinda pubescens* J. E. Smith	T	D	Si	Me	24384
130	***Pavetta canescens* DC.**	T	D	Si	Me	24460, 24501, 24581
131	***Pavetta indica* L.**	T	E	Si	Me	25285
132	***Psychotria nigra* (Gaertn.) Alston**	S	E	Si	Me	24503, 25521
133	*Psydrax dicoccos* Gaertn.	T	E	Si	N	24411, 25228, 24453, 24459, 24481, 24484, 24509, 25513, 24540, 25297
134	*Tamilnadia uliginosa* (Retz.) Tirveng. and Sastre	T	D	Si	Me	24542, 25320
135	*Tarenna asiatica* (L.) Kuntze	S	E	Si	Me	24375, 24389, 24422, 24429, 24444, 24473, 24479, 24511, 25728
136	*Wendlandia thyrsoidea* (Schultes) Steud.	T	D	Si	Me	24485, 24582
Rutaceae						
137	*Aegle marmelos* (L.) Correa	T	D	C	Mi	25294
138	*Atalantia monophylla* (L.) Correa	T	E	Si	Mi	24373, 24408, 24390, 24438, 25516, 25523, 24546
139	*Euodia lunu-ankenda* (Gaertn.) Merr.	T	E	C	Me	25232
140	*Naringi alata* (Wall. ex Wight and Arn.) Ellis	T	E	C	Mi	25293
Sabiaceae						
141	*Meliosma simplicifolia* (Roxb.) Walp.	T	E	Si	Ma	24468
Salicaceae						
142	*Casearia elliptica* Willd.	S	D	Si	N	24412
143	*Scolopia crenata* (Wight and Arn.) Clos.	T	E	Si	N	24505
Santalaceae						
144	*Santalum album* L.	T	E	Si	Mi	24498, 24548, 24549

Table 2. *Continued.*

S. NO.	BOTANICAL NAME	LIFE FORM	PHENOLOGY	LEAF FORM	LEAF CLASS	* HIFP NO.
Sapindaceae						
145	***Dodonaea viscosa* (L.) Jacq.**	S	D	Si	Mi	24396, 24381, 25513
146	*Lepisanthes senegalensis* (Juss. ex Poir.) Leenh.	T	E	C	N	25229
147	*Sapindus emarginatus* Vahl	T	D	C	N	24410, 25291
148	*Schleichera oleosa* (Lour.) Oken	T	D	C	Me	25288, 24541
Sapotaceae						
149	*Madhuca longifolia var. latifolia* (Roxb.) A. Chev.	T	D	Si	Me	24402, 24510
150	*Manilkara hexandra* (Roxb.) Dubard	T	E	Si	N	24368, 24377, 24431, 25295
151	*Mimusops elengi* L.	T	E	Si	Me	24516, 25515
Symplocaceae						
152	*Symplocos cochinchinensis* (Lour.) Moore	T	E	Si	Me	25233, 24455, 24488
Ulmaceae						
153	*Celtis philippensis* Blanco	T	E	Si	Me	25459
154	***Celtis philippensis* var. *wightii* (Planch.) Soepadmo**	T	E	Si	N	25809
155	*Holoptelea integrifolia* (Roxb.) Planch.	T	D	Si	Me	24433, 24440, 24441, 25511, 24579
Verbenaceae						
156	*Callicarpa tomentosa* (L.) Murr.	T	D	Si	Me	25810
157	*Gmelina arborea* Roxb.	T	D	Si	Me	24388
158	*Premna latifolia* Roxb. var. *mollissima* (Roth) C. B. Clarke	T	D	Si	Me	25334, 25300
159	*Premna tomentosa* Roxb.	T	D	Si	Me	24535

In the present study, different leaf sizes were observed within the same species (Table 3). We have assigned leaf classes to these heterophyllous leaf species based on the dominant leaf class exhibited by maximum number of individuals. It is well known that environmental conditions can lead to heterophylly *i.e.*, two or more distinct leaf forms in the same species (Vaughan and Wiehe 1939). Leaf size variation among ecologically similar species and within species may be associated with their function (Ackerly and Reich 1999).

Table 3. Heterophylly shown by some plant species of Eastern Ghats (Data are means ± standard deviations (no of individuals)).

SPECIES	MICROPHYLL/NOTOPHYLL (MM^2)	SPECIES	NOTOPHYLL/MESOPHYLL (MM^2)
Atalantia monophylla	1637.38±984.17 (8)	*Anogeissus latifolia*	3966.25±1477.22 (5)
Drypetes sepiaria	1745.33±671.65 (9)	*Diospyros melanoxylon*	5886.06±1547.05 (4)
Holoptelea integrifolia	4302.21±1487.84 (6)	*Holoptelea integrifolia*	4302.21±1487.84 (6)
Memecylon umbellatum	1724.48±714.65 (10)	*Ixora pavetta*	6591.75±2040.34 (8)
		Mallotus philippensis	6651.25±2875.8 (5)
		Psydrax dicoccus	4608.83±880.71 (12)
		Syzygium cumini	4715.32±1519.37 (11)

Of the total 159 taxa, 83 are evergreen and 76 are deciduous. Here, the evergreen or deciduous nature is based on the foliar phenology of the plant and irrespective of its occurrence in different vegetation types. Further we do not differentiate a brevi-deciduous category. Phenological patterns of tropical forest trees are diverse and complex and dependent on equally complex factors (Bawa and Hedley 1990; Williams-Linera 1997) such as precipitation, tree water status (Reich and Borchert 1982; Borchert 1994), irradiance (Wright and van Schaik 1994) and temperature (Ashton *et al.* 1988; Tutin and Fernandez 1993). The robust pattern appears to be that deciduous trees lose their leaves in a particular season but evergreen trees drop leaves throughout the year (Williams-Linera 1997). The distinction between deciduous and evergreen habit is not always straight forward (Thomas 2000). For instance, *Shorea robusta* is considered as an evergreen species (Krishnaswamy and Mathauda 1954) but this species was referred as tardily deciduous (Li *et al.* 1994), deciduous (Tiwari 1995) and observed leafless for about 8 days in Hathinala forest area of Vindhyan region (Kushwaha and Singh 2005). The degree of gradient of deciduousness is ascertained only by finer field observations (Singh and Kushwaha 2005). Not surprisingly, we found that our study assigned a different phenology to 15 species (Table 4) in comparison with Pragasan and Parthasarathy (2009). Of these, 6 that were assigned evergreen by us were characterized brevi-deciduous in the earlier study. However, *Haldina cordifolia*, observed to be deciduous in the present study was marked as evergreen by Pragasan and Parthasarathy (2009); Newton (1988) in central Indian highlands, Mishra *et al.* (2006) in Similipal biosphere reserve, Orissa and Desai and Patel (2010) in Satlasana range forest, north Gujarat observed *H. cordifolia* as deciduous. Likewise, in *Ficus drupacea,* leaf flushing was observed from January to mid-May in one season whereas the same was observed during September to December in the next season in the same site in Coorg of Western Ghats (Patel, 1997) and the same species has been marked as brevi-deciduous by Pragasan and Parthasarathy (2009). The added value of the present study is that it draws attention to the fact that long-term observations at a finer spatial scale are particularly important in deciduous forests.

In the present study, leaf area is significantly correlated with the altitude (two-tailed p-value is 0.002 where alpha is 0.05). Leaf area increased with increasing altitude. Leaf area is not significantly correlated with mean annual temperature (MAT) and mean annual precipitation (MAP). The narrow difference in temperature and precipitation has no effect on the leaf size. The dominant mesophyllous species are highly adaptive within this short range of MAT and MAP as seen in Amazonian rainforest trees where only megaphyllous trees correlated significantly with environmental factors (Malhado *et al.* 2009). Specific leaf area, stomatal length and index increased with increasing altitude below 2800 m, but decreased with increasing altitude above 2800 m (Li *et al.* 2006). Royer *et al.* (2008) suggests that leaf size is not sensitive to MAT and MAP and this is due to wind speed and water availability which underpin these elevation patterns. But still leaf size may be used to know major fluctuations in, for example, mean annual biotemperature in regions such as Costa Rica, Barro Colorado Island, Panama (tropical) and 17 eastern North American sites (temperate) (Dolph and Dilcher 1980a; Royer *et al.* 2005).

Earlier it was thought that leaf size cannot be used to identify specific life zone or climates in either extant or fossil floras (Dolph and Dilcher 1980b) but recent studies suggest that leaf sizes in modern vegetation accurately predict MAP and can be used in the prediction of climate of fossil leaf assemblages (Wilf *et al.* 1998). Wolfe (1971, 1990, 1995) and Wolfe and Upchurch (1987a, b) have undertaken a comprehensive analysis of palaeofloristic data bearing on the interpretation of Late Cretaceous climates using the extant leaf physiognomy study. Correspondence analysis of Dicotyledones leaf physiognomy of modern vegetational samples from a wide range of environments indicates that more than 70% physiognomic variation corresponds to water or temperature factors, or both. Wolfe (1990) applied this climate-leaf analysis multivariate program (CLAMP) to leaf assemblages from the Cretaceous/Tertiary boundary for the inference of climate characteristics from physiognomic analyses.

South American models for climate reconstruction indicate that MAT – leaf morphology correlation equations based on Northern Hemisphere or Australian data do not accurately predict the MAT of South American sites but the use of tropical south America data itself may help in predicting the MAT of low temperature and high elevation modern sites as well as fossil sites (Kowalski 2002). In this sense, the data presented in this paper can be used to predict the climate variables using leaf size with additional inputs from various other regions of India. The prediction of MAT by analyzing leaf size is largely dependent on the habitat of the plant species (Burnham *et al.* 2001). It was observed that leaf size tends to increase from colder to warmer environments in humid sites (Grubb 1977; Tanner 1980; Niinemets *et al.* 2007); however, in the present study the narrow range of temperatures does not allow us to discern any predictable relationship between leaf size and MAT.

The present study standardized the methodology for the leaf trait measurements in the tropical region and also initiated a baseline data on leaf area measurements (Supporting Information). The quantitative trait measurements from the Eastern Ghats do add a distinct dimension to the field of functional ecology: even within the narrow range of temperature and precipitation in the

Table 4. Foliar phenology assignments: Pragasan and Parthasarathy (2009) and present study.

S. NO.	BOTANICAL NAME*	PHENOLOGY (PRESENT STUDY)	PHENOLOGY (PRAGASAN AND PARTHASARATHY, 2009)
Anacardiaceae			
1	*Buchanania lanzan* Spreng.	E	D
2	*Mangifera indica* L.	E	BD
Araliaceae			
3	*Schefflera stellata* (Gaertn.) Harms	E	D
Ebenaceae			
4	*Diospyros melanoxylon* Roxb.	D	E
Malvaceae			
5	*Grewia orbiculata* Rottl.	D	E
6	*Helicteres isora* L.	D	E
7	*Pterospermum canescens* Roxb.	E	BD
8	*Pterospermum reticulatum* Wight and Arn.	E	D
Moraceae			
9	*Ficus beddomei* King	E	BD
10	*Ficus drupacea* Thunb.	E	BD
11	*Ficus mollis* Vahl	E	BD
12	*Ficus virens* Ait.	E	BD
Rubiaceae			
13	*Haldina cordifolia* (Roxb.) Ridsdale	D	E
Verbenaceae			
14	*Premna latifolia* Roxb. var. *mollissima* (Roth) C. B. Clarke	D	E
15	*Premna tomentosa* Roxb.	D	E

The species reported here correspond to those with different attributions in the two studies study area, heterophylly is conclusively recorded in 10 species; further, leaf area is significantly correlated with altitude, showing that by extending such studies wider, a definite relationship with climatic parameters, such as precipitation or water availability may also be established. Using information from and comparing with existing checklists from this region has also yielded interesting results and pointers for further research: the need for spatially finer long term monitoring studies to reach definitive conclusions about phenology in deciduous forests and the importance of establishing quantitative measurements for species with compound leaves that are more prevalent in this study area characterized by higher temperatures and lower mean annual precipitation, among them. Leaf area measurements and corresponding climatic data derived from the WorldClim data set (Hijmans *et al.* 2005) are provided in Supporting Information – contributing to the CLAMP data base.

In the face of the present crises in the conservation and management of tropical forests, particularly their fragmentation, assessments of functional diversity as much as species diversity are important. The present study does indicate this, though there is potential for refinements and applicability in the plant functional classification; critically, wider sampling of sites is needed to increase number of species, geographic and climatic coverage and the number of leaf economic variables (e.g., leaf lifespan, nutrient content).

Figure 2. a) *Alangium salvifolium* (Cornaceae); b) *Anogeissus latifolia* (Combretaceae); c) *Bauhinia vahlii* (Fabaceae); d) *Buchanania lanzan* (Anacardiaceae); e) *Cassine glauca* (Celastraceae); f) *Celastrus paniculatus* (Celastraceae). Photos by Stephen A.

Figure 3. a) *Celtis philippensis* var. *wightii* (Ulmaceae); b) *Cipadessa baccifera* (Meliaceae); c) *Diospyros montana* (Ebenaceae); d) *Dodonaea viscosa* (Sapindaceae); e) *Elaeocarpus serratus* (Elaeocarpaceae); f) *Erythroxylum monogynum* (Erythroxylaceae). Photos by Stephen A.

Figure 4. a) *Ficus amplissima* (Moraceae); b) *Ficus arnottiana* (Moraceae); c) *Flueggea leucopyrus* (Euphorbiaceae); d) *Gardenia latifolia* (Rubiaceae); e) *Gardenia resinifera* (Rubiaceae); f) *Glochidion ellipticum* (Euphorbiaceae). Photos by Stephen A.

Figure 5. a) *Gmelina arborea* (Verbenaceae); b) *Haldina cordifolia* (Rubiaceae); c) *Hiptage benghalensis* (Malpighiaceae); d) *Holoptelea integrifolia* (Ulmaceae); e) *Ixora pavetta* (Rubiaceae); f) *Kydia calycina* (Malvaceae). Photos by Stephen A.

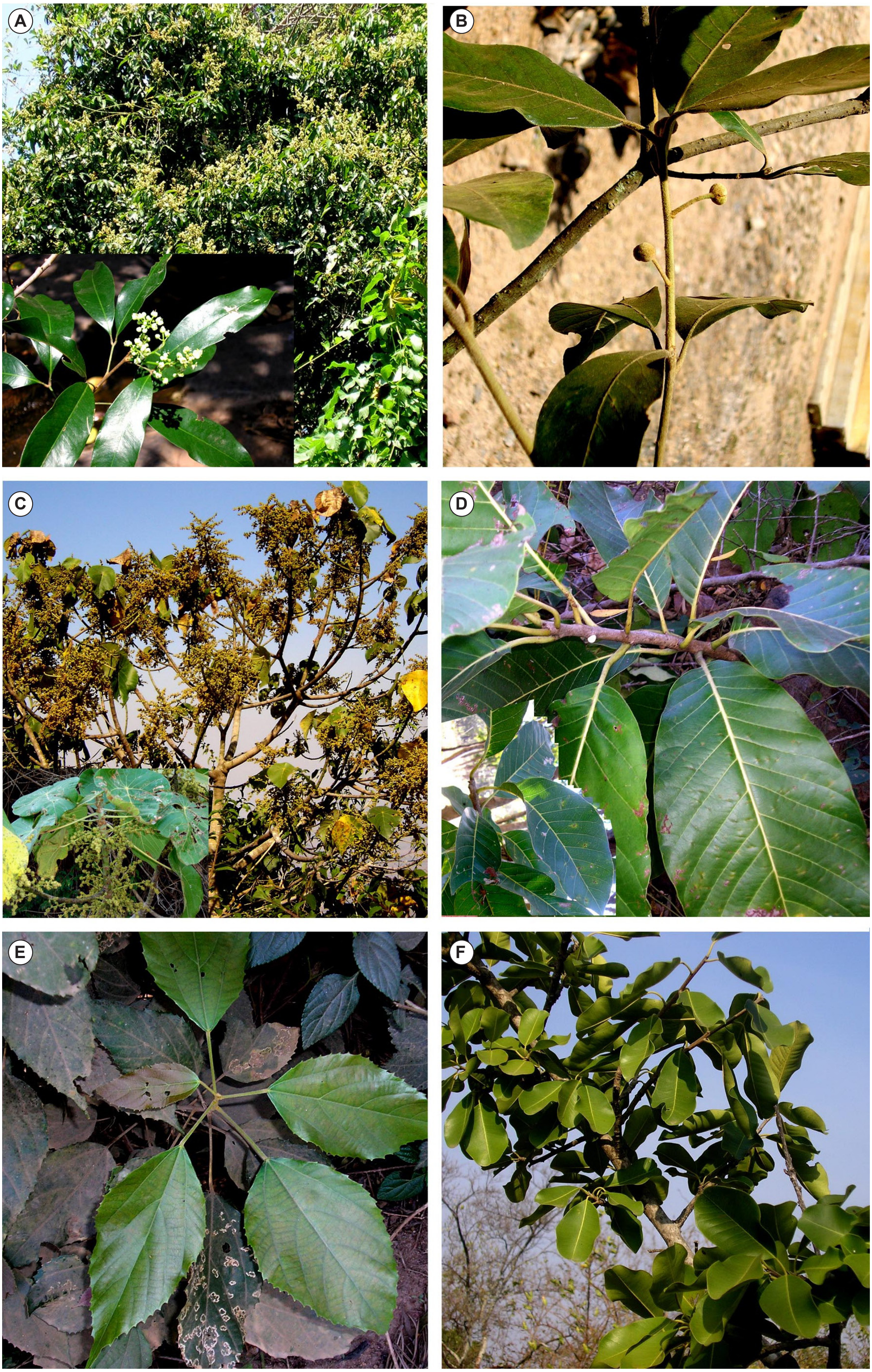

Figure 6. a) *Lepisanthes senegalensis* (Sapindaceae); b) *Litsea deccanensis* (Lauraceae); c) *Macaranga peltata* (Euphorbiaceae); d) *Madhuca longifolia* var. *latifolia* (Sapotaceae); e) *Mallotus philippensis* (Euphorbiaceae); f) *Manilkara hexandra* (Sapotaceae). Photos by Stephen A.

Figure 7. a) *Maesa indica* (Myrsinaceae); b) *Mitragyna parvifolia* (Rubiaceae); c) *Olea dioica* (Oleaceae); d) *Olea glandulifera* (Oleaceae); e) *Persea macrantha* (Lauraceae); f) *Phoebe paniculata* (Lauraceae). Photos by Stephen A.

Figure 8. a) *Polyalthia cerasoides* (Annonaceae); b) *Pongamia pinnata* (Fabaceae); c) *Psydrax dicoccos* (Rubiaceae); d) *Pterospermum canescens* (Malvaceae); e) *Putranjiva roxburghii* (Euphorbiaceae); f) *Schefflera stellata* (Araliaceae). Photos by Stephen A.

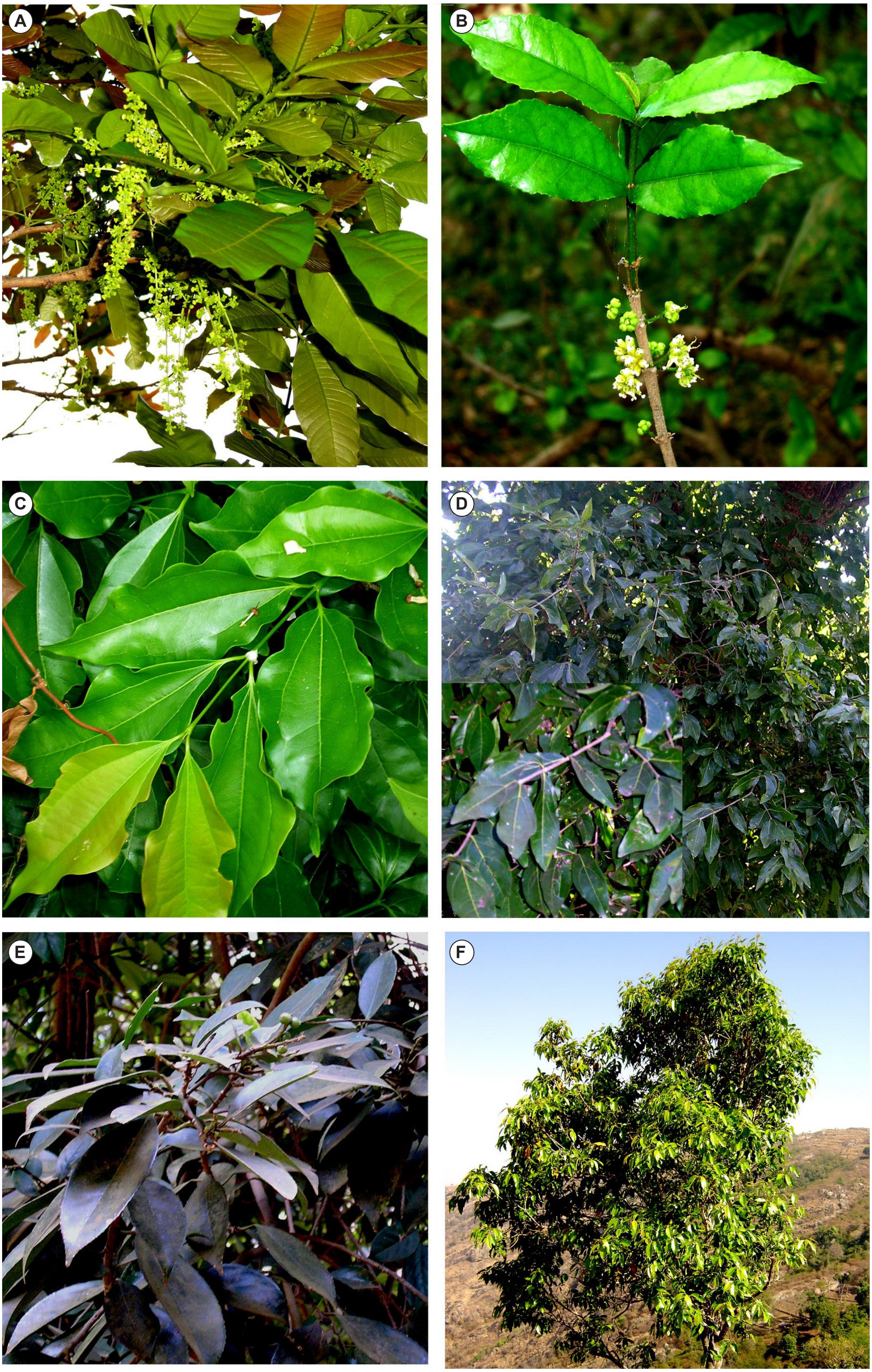

Figure 9. a) *Schleichera oleosa* (Sapindaceae); b) *Streblus asper* (Moraceae); c) *Strychnos nux-vomica* (Loganiaceae); d) *Strychnos potatorum* (Loganiaceae); e) *Symplocos cochinchinensis* (Symplocaceae); f) *Syzygium cumini* (Myrtaceae). Photos by Stephen A.

Figure 10. a) *Tamilnadia uliginosa* (Rubiaceae); b) *Tarenna asiatica* (Rubiaceae); c) *Terminalia alata* (Combretaceae); d) *Wendlandia thyrsoidea* (Rubiaceae); e) *Wrightia tinctoria* (Apocynaceae); f) *Ziziphus rugosa* (Rhamnaceae). Photos by Stephen A.

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Literature Cited

Ackerly, D.D. and P.B. Reich. 1999. Convergence and correlations among leaf size and function in seed plants: a comparative test using independent contrasts. *American Journal of Botany* 86(9): 1272-1281.

APG (The Angiosperm Phylogeny Group) III. 2009. An update of the angiosperm phylogeny group classification for the orders and families of flowering plants: APG III. *Botanical Journal of the Linnean Society* 161: 105-121.

Ashton, P.S., T.G. Givinish and S. Appanah. 1988. Staggered flowering in the Dipterocarpaceae: new insights into floral induction and evolution of mast fruiting in the aseasonal tropics. *American Naturalist* 132: 44-66.

Balaguru, B., S.J. Britto, N. Nagamurugan, D. Natarajan and S. Soosairaj. 2006. Identifying conservation priority zones for effective management of tropical forests in Eastern Ghats of India. *Biodiversity and Conservation* 15:1529-1543.

Barboni, D., S.P. Harrison, P. J. Bartlein, G. Jalut, M. New, I. C. Prentice, M.-F. Sanchez- Goni, A. Spessa, B. Davis and A.C. Stevenson, 2004. Relationship between plant traits and climate in the Mediterranean region: A pollen data analysis. *Journal of Vegetation Science* 15: 635-646.

Bawa, K.S. and M. Hadley. 1990. *Reproductive ecology of tropical forest plants*. MAB Series, Vol. 7. London: UNESCO. 421 p.

Blasco, F. 1979. Les territoires biogéographiques du sous-continent Indien; p. 25-30 *In* P. Cassagnau (ed). *Paléogéographie et Biogéographie de l'Himalaya et du Sous-Continent Indien*. Toulouse: Université Paul-Sabatier.

Bonan, G.B., S. Levis, L. Kergoat and K.W. Oleson. 2002. Landscapes as patches of plant functional types: An integrating concept for climate and ecosystem models. *Global Biogeochemical Cycles* 16(2): 1021, doi:10.1029/2000GB001360.

Borchert, R. 1994. Soil and stem water storage determine phenology and distribution of tropical dry forest trees. *Ecology* 75: 1437-144.

Burnham, R.J., N.C.A. Pitman, K.R. Johnson and P. Wilf. 2001. Habitat-related error in estimating temperatures from leaf margins in a humid tropical forest. *American Journal of Botany* 88(6): 1096-1102.

Cain, S.A. and G.M. de Oliveira Castro. 1959. *Manual of vegetation analysis*. New York: Harper and Brothers Publishers. 325 p.

Cain, S.A., G. M. de Oliveira Castro, J. M. Pires, and N.T. da Silva. 1956. Source application of some phytosociological techniques to Brazilian rain forest. *American Journal of Botany* 43 (10): 911-941.

Champion, H.G. and S.K. Seth. 1968. *A revised survey of the forest types of India*. Delhi: The Manager of Publications, Government of India. 404 p.

Chatterjee, D. 1939. Studies on the endemic flora of India and Burma. *Journal of the Royal Asiatic Society of Bengal (Science)* 5:19-67.

Cornelissen, J.H.C., S. Lavorel, E. Garnier, S. Diaz, N. Buchmann, D.E. Gurvich, P. B. Reich, H. ter Steege, H. D. Morgan, M.G.A. van der Heijden, J.G. Pausas and H. Poorter. 2003. A handbook of protocols for standardised and easy measurement of plant functional traits worldwide. *Australian Journal of Botany* 52: 335-380.

Desai, P.B. and N. K. Patel. 2010. Phenological study of trees species of Satlasana range forest (North Gujarat). *Life sciences Leaflets* 3:41-46.

Dobmeier, C. and M.M. Raith. 2003. Crustal architecture and evolution of the Eastern Ghats belt and adjacent regions of India; p. 145-168 *In* A. Yoshida, B.F. Windley and S. Dasgupta (ed.). *Proterozoic east Gondwana: Supercontinenet assembly and breakup.* London: Geological Society of London, Special Publication, 206.

Dolph, G.E. and D.L. Dilcher. 1980a. Variation in leaf size with respect to climate in Costa Rica. *Biotropica* 12 (2): 91-99.

Dolph, G.E. and D.L. Dilcher. 1980b. Variation in leaf size with respect to climate in the tropics of the Western Hemisphere. *Bulletin of the Torrey Botanical Club* 107 (2): 154-162.

Gamble, J.S. and C.E.C. Fischer. 1915-1935. *Flora of the presidency of Madras*. London: Adlard & Son. vols. I to III. 2017 p.

Garnier, E., B. Shipley, C. Roumet, and G. Laurent. 2001. A standardized protocol for the determination of specific leaf area and leaf dry matter content. *Functional Ecology* 15: 688-695.

Gillison, A. 2002. A generic, computer-assisted method for rapid vegetation classification and survey: tropical and temperate case studies. *Conservation Ecology* 6(2): 3. [online] URL: http://www.consecol.org/vol6/iss2/art3

Grubb P.J. 1977. Control of forest growth and distribution on wet tropical mountains: with special reference to mineral nutrition. *Annual Review of Ecology and Systematics* 8: 83-107.

Henry, A.N., G.R. Kumari, and V. Chitra. (ed). 1987. F*lora of Tamil Nadu, India, Series I: Analysis, Vol. 2*. Coimbatore: Botanical Survey of India. 260 p.

Hijmans, R.J., S.E. Cameron, J.L. Parra, P.G. Jones and A. Jarvis. 2005. Very high resolution interpolated climate surfaces for global land areas. *International Journal of Climatology* 25: 1965-1978.

Hooker, J.D. 1872-1879. *Flora of British India*. London: L. Reeve & Co. part 1-7. 5569 p.

Hooper, D.U. and P.M. Vitousek. 1997. The effects of plant composition and diversity on ecosystem processes. *Science* 277: 1302-1305.

Hooper, D.U. and P.M. Vitousek. 1998. Effects of plant composition and diversity on nutrient cycling. *Ecological Monographs* 68: 121-149.

Hooper, D.U., F.S. Chapin III, J.J. Ewel, A. Hector, P. Inchausti, S. Lavorel, J.H. Lawton, D.M. Lodge, M. Loreau, S. Naeem, B. Schmid, H. Setälä, A.J. Symstad, J. Vandermeer and D.A. Wardle. 2005. Effects of biodiversity on ecosystem functioning: a consensus of current knowledge. *Ecological Monographs* 75 (1): 3-35.

Jayakumar, S., D.I. Arockiasamy, and S.J. Britto. 2002. Conserving forests in the Eastern Ghats through remote sensing and GIS – A case study in Kolli hills. *Current Science* 82(10): 1259-1267.

Kadavul, K. and N. Parthasarathy. 1999a. Plant biodiversity and conservation of tropical semi-evergreen forest in the Shervarayan hills of Eastern Ghats, India. *Biodiversity and Conservation* 8: 421-439.

Kadavul, K. and N. Parthasarathy. 1999b. Structure and composition of woody species in tropical semi-evergreen forest of Kalrayan hills, Eastern Ghats, India. *Tropical Ecology* 40: 247-260.

Kowalski, E.A. 2002. Mean annual temperature estimation based on leaf morphology: a test from tropical South America. *Palaeogeography, Palaeoclimatology, Palaeoecology* 188: 141-165.

Krishnan, M.S. 1961. The structure and tectonic history of India (revised). *Geological Survey of India Memoirs* 81: 1-137.

Krishnan, M.S. 1974. Geology; p. 60-98 *In* M.S. Mani (ed.). *Ecology and biogeography in India*. The Hague: Dr. W. Junk Publications.

Krishnaswamy, V.S. and G.S. Mathauda. 1954. Phenological behaviour of a few forest spp. at New Forest, Dehra Dun. *Indian Forester* 80: 3-4.

Kushwaha, C.P. and K.P. Singh. 2005. Diversity of leaf phenology in a tropical deciduous forest in India. *Journal of Tropical Ecology* 21: 47-56.

Landsberg, J., S. Lavorel and J. Stol. 1999. Grazing response groups among understorey plants in arid rangelands. *Journal of Vegetation Science* 10: 683-696.

Lavorel, S., S. McIntyre and K. Grigulis. 1999. Plant response to disturbance in a Mediterranean grassland: How many functional groups? *Journal of Vegetation Science* 10: 661-672.

Legris, P. and V.M. Meher-Homji. 1984. The Eastern Ghats: Phytogeogrphic aspects. *Indian Review of Life Sciences* 4:115-136.

Li, C., X. Zhang, X. Liu, O. Luukkanen and F. Berninger. 2006. Leaf morphological and physiological responses of *Quercus aquifolioides* along an altitudinal gradient. *Silva Fennica* 40 (1): 5-13.

Li, X. J. Li and P.S. Ashton. 1994. Dipterocarpaceae; p. 48-54 *In* W. Zhengyi, P.H. Raven and H. Deyuan (ed.). *Flora of China, Vol 13*. Beijing and Sr. Louis: Science Press / Missouri Botanical Garden.

Malhado, A.C.M., Y. Malhi, R.J. Whittaker, R.J. Ladle, H. ter Steege, O.L. Phillips, N. Butt, L.E.O.C. Aragão, C.A. Quesada, A. Araujo-Murakami, L. Arroyo, J. Peacock, G. Lopez-Gonzalez, T.R. Baker, L.O. Anderson, S. Almeida, N. Higuchi, T.J. Killeen, A. Monteagudo, D. Neill, N. Pitman, A. Prieto, R.P. Salomão, R. Váasquez-Martínez and W.F. Laurance. 2009. Spatial trends in leaf size of Amazonian rainforest trees. *Biogeosciences* 6: 1563-1576.

Matthew, K.M. 1983. *The flora of the Tamil Nadu Carnatic*. Tiruchirapalli: The Rapinat Herbarium. St. Joseph's College. 2154 p.

McLaren, J.R. 2006. Effects of plant functional groups on vegetation dynamics and ecosystem properties. *Arctic* 59 (4): 449-452.

McNeely J.A., K.R. Miller, W.V. Reid, R.A. Mittermeier. and T.B. Werner. 1990. *Conserving the world's biological diversity*. Gland: IUCN.

Meher-Homji, V.M. 2001. *Bioclimatology and plant geography of peninsular India*. Jodhpur: Scientific Publishers (India). 199 p.

Mishra, R.K., V.P. Upadhyay, S. Bal, P.K. Mohapatra and R.C. Mohanty. 2006.

Phenology of species of moist deciduous forest sites of Similipal biosphere reserve. *Lyonia* 11 (1): 5-17.
Moorcroft, P.R., G.C. Hurtt, and S.W. Pacala. 2001. A method for scaling vegetation dynamics: The ecosystem demography model (ED). *Ecological Monographs* 71: 557-585.
Mukhopadhyay, D. and K. Basak. 2009. The Eastern Ghats belt - A polycyclic granulite terrain. *Journal of Geological Society of India* 73(4): 489-518.
Muthumperumal, C. and N. Parthasarathy. 2009. Angiosperms, climbing plants in tropical forests of southern Eastern Ghats, Tamil Nadu, India. *Check List* 5(1): 92-111.
Naeem, S. 2002. Ecosystem consequences of biodiversity loss: the evolution of a paradigm. *Ecology* 83: 1537-1552.
Naeem, S., F.S. Chair, Chapin III, R. Costanza, P.R. Ehrlich, F.B. Golley, D.U. Hooper, J.H. Lawton, R.V.O. Neill, H.A. Mooney, O.E. Sala, A.J. Symstad and D. Tilman. 1999. Biodiversity and ecosystem functioning: Maintaining natural life support processes. *Issues in Ecology*, 4: 1-12.
Nair, N.C. and A.N. Henry. (ed.). 1983. *Flora of Tamil Nadu, India, Series I: Analysis, Vol. 1*. Coimbatore: Botanical Survey of India. 188 p.
Natarajan, D., S.J. Britto, B. Balaguru, N. Nagamurugan and S. Soosairaj. 2004. Identification of conservation priority sites using remote sensing and GIS - A case study from Chitteri Hills, Eastern Ghats, Tamil Nadu. *Current Science* 86(9): 1316-1323.
Newton, P.N. 1988. The structure and phenology of a moist deciduous forest in the Central Indian Highlands. *Vegetatio* 75: 3-16.
Niinemets, U., A. Portsmuth, D. Tena, M. Tobias, S. Matesanz and F. Valladares. 2007. Do we underestimate the importance of leaf size in plant economics? Disproportional scaling of support costs within the spectrum of leaf physiognomy. *Annals of Botany* 100: 283-303.
NRSC. 2006. *Land Use/Land Cover database on 1:50,000 scale*, *Natural Resources Census Project, LUCMD, LRUMG, RS and GIS AA*, Hyderabad: National Remote Sensing Centre, ISRO.
Patel, A. 1997. Phenological patterns of *Ficus* in relation to other forest trees in southern India. *Journal of Tropical Ecology* 13 (5): 681-695.
Pragasan, L. A. and N. Parthasarathy. 2009. Angiosperms, tree species in tropical forests of southern Eastern Ghats, Tamil Nadu, India. *Check List* 5(3):542-569.
Rao D.M. and T. Pullaiah. 2007. Ethnobotanical studies on some rare and endemic floristic elements of Eastern Ghats-hill ranges of south east Asia, India. *Ethnobotanical Leaflets International Web Journal* 11: 52-70.
Raunkiaer, C. 1934. *The life forms of plants and statistical plant geography*. Oxford: Clarendon Press. 632 p.
Reddy, C. S., S. Babar, A. Giriraj, K.N. Reddy and K.T. Rao. 2008. Structure and floristic composition of tree diversity in tropical dry deciduous forest of Eastern Ghats, Southern Andhra Pradesh, India. *Asian Journal of Scientific Research* 1: 57-64.
Reddy, C.S., K.N. Reddy, E.N. Murthy and V.S. Raju. 2009. Tree wealth of Eastern Ghats of Andhra Pradesh, India: An updated checklist. *Check List* 5(2):173-194.
Reich, P.B. and R. Borchert. 1982. Phenology and ecophysiology of the tropical tree, *Tabebuia neochrysantha* (Bignoniaceae). *Ecology* 63: 294-299.
Reich, P.B., M.B. Walters and D.S. Ellsworth. 1997. From tropics to tundra: Global convergence in plant function. *Proceedings of the National Academy of Sciences* 94: 13730-13734.
Richards, P.W. 1957. *The tropical rainforest: An ecological study*. Cambridge: Cambridge University Press. 450 p.
Roderick, M.L., S.L. Berry, A.R. Saunders and I.R. Noble. 1999. On the relationship between the composition, morphology and function of leaves. *Functional Ecology* 13: 697-710.
Rodgers, W.A. and H.S. Panwar. 1988. *Planning a wildlife protected area network in India*. 2 vols. Dehra Dun: Project FO: IND/82/003. FAO. 339. 267 p.
Royer D.L., J.C. McElwain, J.M. Adams and P. Wilf. 2008. Sensitivity of leaf size and shape to climate within *Acer rubrum* and *Quercus kelloggii*. *New Phytologist* 179: 808-817.
Royer, D.L., P. Wilf, D.A. Janesko, E.A. Kowalski and D.L. Dilcher. 2005. Correlations of climate and plant ecology to leaf size and shape: potential proxies for the fossil record. *American Journal of Botany* 92(7): 1141-1151.
Saldanha, C.J. 1984. *Flora of Karnataka. Volume 1. Magnoliaceae to Fabaceae*. New Delhi: Oxford & IBH. 535 p.
Singh, K.P. and C.P. Kushwaha. 2005. Paradox of leaf phenology: *Shorea robusta* is a semi-evergreen species in tropical dry deciduous forests in India. *Current Science* 88 (11): 1820-1824.
Soosairaj, S., S.J. Britto, B. Balaguru, N. Nagamurugan and D. Natarajan. 2004. Mapping forest types of Pacchaimalai Hills, Eastern Ghats, India using Remote sensing and GIS. *Ecology, Environment and Conservation* 10(2): 131-135.
Soosairaj, S., S.J. Britto, B. Balaguru, N. Nagamurugan, and D. Natarajan. 2007. Zonation of conservation priority sites for effective management of tropical forests in India: A value-based conservation approach. *Applied Ecology and Environmental Research* 5(2): 37-48.
Tanner E.V.J. 1980. Studies of the biomass and productivity in a series of montane rain forests in Jamaica. *Journal of Ecology* 68: 573-588.
Thomas, P.A. 2000. *Trees: Their natural history*. Cambridge: Cambridge University Press. 289 p.
Tilman, D., K. Johannes, W. David, P. Reich, R. Mark and S. Evan. 1997. The influence of functional diversity and composition on ecosystem processes. *Science* 277: 1300-1302.
Tiwari, D.N. 1995. *A Monograph on Sal (*Shorea robusta *Geartn. f.)*. New Delhi: Vedams eBooks (P) Ltd. 277 p.
Turner, I. M. and H.T.M. Tan. 1991. Habitat-related variation in tree leaf form in four tropical forest types on Pulau Ubin, Singapore. *Journal of Vegetation Science* 2: 691-698.
Tutin, C.E.G. and M. Fernandez. 1993. Relationships between minimum temperature and fruit production in some tropical forest trees in Gabon. *Journal of Tropical Ecology* 9: 241-248.
Vaughan, R.E. and P.O. Wiehe. 1939. Studies on the vegetation of Mauritius: II. The effect of environment on certain features of leaf structure. *The Journal of Ecology* 27(2): 263-281.
Wackernagel, M., B. Schulz, D. Deumling, Callejas A. Linares, M. Jenkins, V. Kapos, C. Monfreda, J. Loh, N. Myers, R. Norgaard and J. Randers. 2002. Tracking the ecological overshoot of the human economy. *Proceedings of the National Academy of Sciences* 99(14): 9266-9271.
Webb, L.J. 1959. A physiognomic classification of Australian rain forests. *Journal of Ecology* 47:551-570.
Wilf, P., S.L. Wing, D.R. Greenwood and C.L. Greenwood. 1998. Using fossil leaves as paleoprecipitation indicators: An Eocene example. *Geology* 26 (3): 203-206.
Williams-Linera, G. 1997. Phenology of deciduous and broadleaved-evergreen tree species in a Mexican tropical lower montane forest. *Global Ecology and Biogeography Letters* 6 (2): 115-127.
Wolfe, J.A. 1971. Tertiary climatic fluctuations and methods of analysis of tertiary floras. *Palaeogeography, Palaeoclimatology, Palaeoecology* 9: 27-57.
Wolfe, J.A. 1990. Palaeobotanical evidence for a major temperature increase following the Cretaceous/Tertiary boundary. *Nature* 343: 153-156.
Wolfe, J.A. 1995. Paleoclimatic estimates from Tertiary leaf assemblages. *Annual Review of Earth and Planetary Sciences* 23: 119-142.
Wolfe J.A. and G.R. Upchurch, jr. 1987a. Leaf assemblages across the Cretaceous-Tertiary boundary in the Raton Basin, New Mexico and Colorado. *Proceedings of the National Academy of Sciences of the United States of America* 84 (15): 5096-5100.
Wolfe J.A. and G.R. Upchurch, jr. 1987b. North American nonmarine climates and vegetation during the Late Cretaceous. *Palaeogeography, Palaeoclimatology, Palaeoecology* 61: 33-77.
Wright, I.tJ., P.B. Reich, J.H.C. Cornelissen, D.S. Falster, P.K. Groom, K. Hikosaka, W. Lee, C.H. Lusk, Ü. Niinemets, J. Oleksyn, N. Osada, H. Poorter, D.I. Warton and M. Westoby. 2005. Modulation of Leaf Economic Traits and Trait Relationships by Climate. *Global Ecology and Biogeography* 14: 411-421.
Wright, I.J., P.B. Reich, M. Westoby, D.D. Ackerly, Z. Baruch, F. Bongers, J. Cavender-Bares, F.S. Chapin, J.H.C. Cornelissen, M. Diemer, J. Flexas, E. Garnier, P.K. Groom, J. Gulias, K. Hikosaka, B.B. Lamont, T. Lee, W. Lee, C. Lusk, J.J. Midgley, M.-L. Navas, Ü. Niinemets, J. Oleksyn, N. Osada, H. Poorter, P. Poot, L. Prior, V.I. Pyankov, C. Roumet, S.C. Thomas, M.G. Tjoelker, E.J. Veneklaas. and R. Villar. 2004. The world-wide leaf economics spectrum. *Nature* 428: 821-827.
Wright, S.J. and C.P. van Schaik. 1994. Light and the phenology of tropical trees. *American Naturalist* 143: 192-199.

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Supporting Information. A complete dataset of the woody species from this study can be accessed at *http://www.checklist.org.br/getpdf?SL003-11A*

SUPPORTING INFORMATION. Leaf classes, foliar phenology and life forms of selected woody species from the tropical forests of central and southern Eastern Ghats, India. *Check List* 8(6).

Field No.	Location	Species Name	Family	Habit	Phenology	Lat	Lon	Alt	Leaf Fresh area (Log10)	Leaf Dry area (Log10)	Leaf_class	Leaf size score	amean	amin	amax	jsmean	jsmin	jsmax	odmean	odmin	odmax	jfmean	jfmin	jfmax	mmmean	mmmin	mmmax	AmeanTemp	AmaxTemp	AminTemp	JSmeanTemp	JSmaxTemp	JSminTemp	ODmeanTemp	ODmaxTemp	ODminTemp	JFmeanTemp	JFmaxTemp	JFminTemp	MMmeanTemp	MMmaxTemp	MMminTemp
1	Kandhadu (Marakkanam)	Memecylon umbellatum Burm. f.	Melastomataceae	Shrub	Evergreen	12,2128	79,8950	16,3	1,2438	1,1206	Microphyll	0,5	1084,4916	493,9727	1795,4011	394,4538	139,3359	768,3222	573,8727	136,5528	1277,5520	41,1654	-0,0647	204,2867	100,0714	2,6260	675,0177	28,5161	33,4478	23,4665	30,6291	35,7463	25,3783	26,3508	30,5357	22,0731	25,2938	30,3511	19,9532	29,9981	35,2362	24,6519
2	Kandhadu (Marakkanam)	Chionanthus zeylanicus L.	Oleaceae	Trees	Evergreen	12,2128	79,8950	16,3	1,2703	1,1986	Mesophyll	1	1084,4916	493,9727	1795,4011	394,4538	139,3359	768,3222	573,8727	136,5528	1277,5520	41,1654	-0,0647	204,2867	100,0714	2,6260	675,0177	28,5161	33,4478	23,4665	30,6291	35,7463	25,3783	26,3508	30,5357	22,0731	25,2938	30,3511	19,9532	29,9981	35,2362	24,6519
3	Kandhadu (Marakkanam)	Manilkara hexandra (Roxb.) Dubard	Sapotaceae	Trees	Evergreen	12,2128	79,8950	16,3	1,5374	1,4368	Mesophyll	1	1084,4916	493,9727	1795,4011	394,4538	139,3359	768,3222	573,8727	136,5528	1277,5520	41,1654	-0,0647	204,2867	100,0714	2,6260	675,0177	28,5161	33,4478	23,4665	30,6291	35,7463	25,3783	26,3508	30,5357	22,0731	25,2938	30,3511	19,9532	29,9981	35,2362	24,6519
4	Kandhadu (Marakkanam)	Euphorbia nivulia (L.) B.-Ham.	Euphorbiaceae	Trees	Deciduous	12,2128	79,8950	16,3	1,6221	1,3711	Mesophyll	1	1084,4916	493,9727	1795,4011	394,4538	139,3359	768,3222	573,8727	136,5528	1277,5520	41,1654	-0,0647	204,2867	100,0714	2,6260	675,0177	28,5161	33,4478	23,4665	30,6291	35,7463	25,3783	26,3508	30,5357	22,0731	25,2938	30,3511	19,9532	29,9981	35,2362	24,6519
5	Kandhadu (Marakkanam)	Garcinia spicata (Wight and Arn.) Hook.f.	Clusiaceae	Trees	Evergreen	12,2128	79,8950	16,3	1,7889	1,7568	Mesophyll	1	1084,4916	493,9727	1795,4011	394,4538	139,3359	768,3222	573,8727	136,5528	1277,5520	41,1654	-0,0647	204,2867	100,0714	2,6260	675,0177	28,5161	33,4478	23,4665	30,6291	35,7463	25,3783	26,3508	30,5357	22,0731	25,2938	30,3511	19,9532	29,9981	35,2362	24,6519
6	Kandhadu (Marakkanam)	Pterospermum reticulatum Wight and Arn.	Malvaceae	Trees	Evergreen	12,2128	79,8950	16,3	1,5592	1,4973	Mesophyll	1	1084,4916	493,9727	1795,4011	394,4538	139,3359	768,3222	573,8727	136,5528	1277,5520	41,1654	-0,0647	204,2867	100,0714	2,6260	675,0177	28,5161	33,4478	23,4665	30,6291	35,7463	25,3783	26,3508	30,5357	22,0731	25,2938	30,3511	19,9532	29,9981	35,2362	24,6519
7	Kandhadu (Marakkanam)	Syzygium cumini (L.) Skeels	Myrtaceae	Trees	Evergreen	12,2128	79,8950	16,3	1,6076	1,5399	Mesophyll	1	1084,4916	493,9727	1795,4011	394,4538	139,3359	768,3222	573,8727	136,5528	1277,5520	41,1654	-0,0647	204,2867	100,0714	2,6260	675,0177	28,5161	33,4478	23,4665	30,6291	35,7463	25,3783	26,3508	30,5357	22,0731	25,2938	30,3511	19,9532	29,9981	35,2362	24,6519
8	Kandhadu (Marakkanam)	Atalantia monophylla (L.) DC.	Rutaceae	Trees	Evergreen	12,2128	79,8950	16,3	1,1004	1,0243	Microphyll	0,5	1084,4916	493,9727	1795,4011	394,4538	139,3359	768,3222	573,8727	136,5528	1277,5520	41,1654	-0,0647	204,2867	100,0714	2,6260	675,0177	28,5161	33,4478	23,4665	30,6291	35,7463	25,3783	26,3508	30,5357	22,0731	25,2938	30,3511	19,9532	29,9981	35,2362	24,6519
9	Kandhadu (Marakkanam)	Strychnos minor Dennst.	Loganiaceae	Climbing Shrub	Evergreen	12,2128	79,8950	16,3	1,2577	1,2033	Mesophyll	1	1084,4916	493,9727	1795,4011	394,4538	139,3359	768,3222	573,8727	136,5528	1277,5520	41,1654	-0,0647	204,2867	100,0714	2,6260	675,0177	28,5161	33,4478	23,4665	30,6291	35,7463	25,3783	26,3508	30,5357	22,0731	25,2938	30,3511	19,9532	29,9981	35,2362	24,6519
10	Pakkam (Melmaruvathur)	Tarenna asiatica (L.) Kuntz ex K. Schum.	Rubiaceae	Shrub	Evergreen	12,4422	79,8183	48	1,6836	1,5746	Mesophyll	1	1078,2433	523,0903	1777,8992	410,4539	150,5873	784,6475	546,1741	131,9681	1254,0670	34,8910	-0,0647	174,8191	95,6093	2,2609	523,1292	28,4061	33,7424	22,9273	30,5438	36,0465	24,9251	26,0939	30,4725	21,5735	25,0775	30,5808	19,2634	30,0860	35,9358	24,0598
11	Pakkam (Melmaruvathur)	Tarenna asiatica (L.) Kuntz ex K. Schum.	Rubiaceae	Shrub	Evergreen	12,4422	79,8183	48	1,6881	1,6296	Mesophyll	1	1078,2433	523,0903	1777,8992	410,4539	150,5873	784,6475	546,1741	131,9681	1254,0670	34,8910	-0,0647	174,8191	95,6093	2,2609	523,1292	28,4061	33,7424	22,9273	30,5438	36,0465	24,9251	26,0939	30,4725	21,5735	25,0775	30,5808	19,2634	30,0860	35,9358	24,0598
12	Pakkam (Melmaruvathur)	Manilkara hexandra (Roxb.) Dubard	Sapotaceae	Trees	Evergreen	12,4422	79,8183	48	1,4417	1,3820	Mesophyll	1	1078,2433	523,0903	1777,8992	410,4539	150,5873	784,6475	546,1741	131,9681	1254,0670	34,8910	-0,0647	174,8191	95,6093	2,2609	523,1292	28,4061	33,7424	22,9273	30,5438	36,0465	24,9251	26,0939	30,4725	21,5735	25,0775	30,5808	19,2634	30,0860	35,9358	24,0598
13	Pakkam (Melmaruvathur)	Bauhinia racemosa Lam.	Fabaceae	Trees	Deciduous	12,4422	79,8183	48	1,1385	1,0663	Mesophyll	1	1078,2433	523,0903	1777,8992	410,4539	150,5873	784,6475	546,1741	131,9681	1254,0670	34,8910	-0,0647	174,8191	95,6093	2,2609	523,1292	28,4061	33,7424	22,9273	30,5438	36,0465	24,9251	26,0939	30,4725	21,5735	25,0775	30,5808	19,2634	30,0860	35,9358	24,0598
14	Pakkam (Melmaruvathur)	Ixora pavetta Andr.	Rubiaceae	Trees	Evergreen	12,4422	79,8183	48	1,6914	1,6480	Microphyll	0,5	1078,2433	523,0903	1777,8992	410,4539	150,5873	784,6475	546,1741	131,9681	1254,0670	34,8910	-0,0647	174,8191	95,6093	2,2609	523,1292	28,4061	33,7424	22,9273	30,5438	36,0465	24,9251	26,0939	30,4725	21,5735	25,0775	30,5808	19,2634	30,0860	35,9358	24,0598
15	Pakkam (Melmaruvathur)	Drypetes sepiaria (Wight and Arn.) Pax and Hoffm.	Euphorbiaceae	Trees	Evergreen	12,4422	79,8183	48	1,1997	1,1351	Microphyll	0,5	1078,2433	523,0903	1777,8992	410,4539	150,5873	784,6475	546,1741	131,9681	1254,0670	34,8910	-0,0647	174,8191	95,6093	2,2609	523,1292	28,4061	33,7424	22,9273	30,5438	36,0465	24,9251	26,0939	30,4725	21,5735	25,0775	30,5808	19,2634	30,0860	35,9358	24,0598
16	Pakkam (Melmaruvathur)	Atalantia monophylla (L.) DC.	Rutaceae	Trees	Evergreen	12,4422	79,8183	48	1,2591	1,1821	Mesophyll	1	1078,2433	523,0903	1777,8992	410,4539	150,5873	784,6475	546,1741	131,9681	1254,0670	34,8910	-0,0647	174,8191	95,6093	2,2609	523,1292	28,4061	33,7424	22,9273	30,5438	36,0465	24,9251	26,0939	30,4725	21,5735	25,0775	30,5808	19,2634	30,0860	35,9358	24,0598
17	Pakkam (Melmaruvathur)	Anogeissus latifolia (Roxb. ex DC.) Wall. ex Guill. and Perr.	Combretaceae	Trees	Deciduous	12,4422	79,8183	48	1,6850	1,6330	Microphyll	0,5	1078,2433	523,0903	1777,8992	410,4539	150,5873	784,6475	546,1741	131,9681	1254,0670	34,8910	-0,0647	174,8191	95,6093	2,2609	523,1292	28,4061	33,7424	22,9273	30,5438	36,0465	24,9251	26,0939	30,4725	21,5735	25,0775	30,5808	19,2634	30,0860	35,9358	24,0598
18	Pakkam (Melmaruvathur)	Gmelina arborea Roxb.	Verbenaceae	Trees	Deciduous	12,4422	79,8183	48	2,2018	2,1589	Mesophyll	1	1078,2433	523,0903	1777,8992	410,4539	150,5873	784,6475	546,1741	131,9681	1254,0670	34,8910	-0,0647	174,8191	95,6093	2,2609	523,1292	28,4061	33,7424	22,9273	30,5438	36,0465	24,9251	26,0939	30,4725	21,5735	25,0775	30,5808	19,2634	30,0860	35,9358	24,0598
19	Pakkam (Melmaruvathur)	Morinda pubescens J.E. Smith.	Rubiaceae	Trees	Deciduous	12,4422	79,8183	48	1,8253	1,7753	Mesophyll	1	1078,2433	523,0903	1777,8992	410,4539	150,5873	784,6475	546,1741	131,9681	1254,0670	34,8910	-0,0647	174,8191	95,6093	2,2609	523,1292	28,4061	33,7424	22,9273	30,5438	36,0465	24,9251	26,0939	30,4725	21,5735	25,0775	30,5808	19,2634	30,0860	35,9358	24,0598
20	Pakkam (Melmaruvathur)	Memecylon umbellatum Burm. f.	Melastomataceae	Shrub	Evergreen	12,4422	79,8183	48	1,2308	1,1161	Microphyll	0,5	1078,2433	523,0903	1777,8992	410,4539	150,5873	784,6475	546,1741	131,9681	1254,0670	34,8910	-0,0647	174,8191	95,6093	2,2609	523,1292	28,4061	33,7424	22,9273	30,5438	36,0465	24,9251	26,0939	30,4725	21,5735	25,0775	30,5808	19,2634	30,0860	35,9358	24,0598
21	Polur - Jamunamarathur	Gardenia resinifera Roth.	Rubiaceae	Trees	Deciduous	12,5586	79,0133	292	2,0086	1,9380	Mesophyll	1	909,2852	447,9081	1637,6932	401,6317	130,0446	780,7860	365,0087	57,0980	759,2652	25,7160	-0,0647	209,7511	112,0494	8,9690	428,2445	27,5743	33,2510	21,8801	29,2726	34,6447	24,1501	25,1424	29,8048	20,2886	24,6601	30,8204	18,1496	29,6987	36,2367	22,9321
22	Polur - Jamunamarathur	Strychnos potatorum L. f.	Loganiaceae	Trees	Deciduous	12,5586	79,0133	292	1,6288	1,5913	Mesophyll	1	909,2852	447,9081	1637,6932	401,6317	130,0446	780,7860	365,0087	57,0980	759,2652	25,7160	-0,0647	209,7511	112,0494	8,9690	428,2445	27,5743	33,2510	21,8801	29,2726	34,6447	24,1501	25,1424	29,8048	20,2886	24,6601	30,8204	18,1496	29,6987	36,2367	22,9321
23	Polur - Jamunamarathur	Drypetes sepiaria (Wight and Arn.) Pax and Hoffm.	Euphorbiaceae	Trees	Evergreen	12,5586	79,0133	292	1,2233	1,1836	Mesophyll	1	909,2852	447,9081	1637,6932	401,6317	130,0446	780,7860	365,0087	57,0980	759,2652	25,7160	-0,0647	209,7511	112,0494	8,9690	428,2445	27,5743	33,2510	21,8801	29,2726	34,6447	24,1501	25,1424	29,8048	20,2886	24,6601	30,8204	18,1496	29,6987	36,2367	22,9321
24	Polur - Jamunamarathur	Tarenna asiatica (L.) Kuntz ex K. Schum.	Rubiaceae	Shrub	Evergreen	12,5586	79,0133	292	1,6579	1,5590	Mesophyll	1	909,2852	447,9081	1637,6932	401,6317	130,0446	780,7860	365,0087	57,0980	759,2652	25,7160	-0,0647	209,7511	112,0494	8,9690	428,2445	27,5743	33,2510	21,8801	29,2726	34,6447	24,1501	25,1424	29,8048	20,2886	24,6601	30,8204	18,1496	29,6987	36,2367	22,9321
25	Jamuna 20	Hymenodictyon orixense (Roxb.) Mabberley	Rubiaceae	Trees	Deciduous	12,5667	79,0153	507	2,0618	2,0014	Mesophyll	1	909,7328	449,5415	1637,6293	401,8457	130,4480	781,0606	365,2139	57,3841	759,1035	25,5605	-0,0647	207,5921	112,0241	8,9708	428,3399	27,5766	33,2457	21,8857	29,2652	34,6146	24,1523	25,1441	29,8127	20,2887	24,6616	30,8171	18,1567	29,7112	36,2544	22,9468
26	Jamuna 20	Buchanania axillaris (Desr.) Raman	Anacardiaceae	Trees	Deciduous	12,5667	79,0153	507	1,1883	1,1113	Mesophyll	1	909,7328	449,5415	1637,6293	401,8457	130,4480	781,0606	365,2139	57,3841	759,1035	25,5605	-0,0647	207,5921	112,0241	8,9708	428,3399	27,5766	33,2457	21,8857	29,2652	34,6146	24,1523	25,1441	29,8127	20,2887	24,6616	30,8171	18,1567	29,7112	36,2544	22,9468
27	Polur - Jamunamarathur	Ehretia laevis Roxb.	Boraginaceae	Trees	Deciduous	12,5586	79,0133	292	1,4151	1,3791	Mesophyll	1	909,2852	447,9081	1637,6932	401,6317	130,0446	780,7860	365,0087	57,0980	759,2652	25,7160	-0,0647	209,7511	112,0494	8,9690	428,2445	27,5743	33,2510	21,8801	29,2726	34,6447	24,1501	25,1424	29,8048	20,2886	24,6601	30,8204	18,1496	29,6987	36,2367	22,9321
28	Jamuna 20	Terminalia alata Heyne ex Roth.	Combretaceae	Trees	Deciduous	12,5667	79,0153	507	1,7132	1,6247	Mesophyll	1	909,7328	449,5415	1637,6293	401,8457	130,4480	781,0606	365,2139	57,3841	759,1035	25,5605	-0,0647	207,5921	112,0241	8,9708	428,3399	27,5766	33,2457	21,8857	29,2652	34,6146	24,1523	25,1441	29,8127	20,2887	24,6616	30,8171	18,1567	29,7112	36,2544	22,9468
29	Jamuna 20	Grewia orbiculata Rottl.	Malvaceae	Trees	Deciduous	12,5667	79,0153	507	1,4659	1,4061	Mesophyll	1	909,7328	449,5415	1637,6293	401,8457	130,4480	781,0606	365,2139	57,3841	759,1035	25,5605	-0,0647	207,5921	112,0241	8,9708	428,3399	27,5766	33,2457	21,8857	29,2652	34,6146	24,1523	25,1441	29,8127	20,2887	24,6616	30,8171	18,1567	29,7112	36,2544	22,9468
30	Jamuna 20	Anogeissus latifolia (Roxb. ex DC.) Wall. ex Guill. and Perr.	Combretaceae	Trees	Deciduous	12,5667	79,0153	507	1,3154	1,2352	Mesophyll	1	909,7328	449,5415	1637,6293	401,8457	130,4480	781,0606	365,2139	57,3841	759,1035	25,5605	-0,0647	207,5921	112,0241	8,9708	428,3399	27,5766	33,2457	21,8857	29,2652	34,6146	24,1523	25,1441	29,8127	20,2887	24,6616	30,8171	18,1567	29,7112	36,2544	22,9468
31	Jamuna 20	Dodonaea viscosa (L.) Jacq.	Sapindaceae	Shrub	Deciduous	12,5667	79,0153	507	0,8254	0,7099	Mesophyll	1	909,7328	449,5415	1637,6293	401,8457	130,4480	781,0606	365,2139	57,3841	759,1035	25,5605	-0,0647	207,5921	112,0241	8,9708	428,3399	27,5766	33,2457	21,8857	29,2652	34,6146	24,1523	25,1441	29,8127	20,2887	24,6616	30,8171	18,1567	29,7112	36,2544	22,9468
32	Jamuna 20	Diospyros melanoxylon Roxb.	Ebenaceae	Trees	Deciduous	12,5667	79,0153	507	1,8291	1,7785	Mesophyll	1	909,7328	449,5415	1637,6293	401,8457	130,4480	781,0606	365,2139	57,3841	759,1035	25,5605	-0,0647	207,5921	112,0241	8,9708	428,3399	27,5766	33,2457	21,8857	29,2652	34,6146	24,1523	25,1441	29,8127	20,2887	24,6616	30,8171	18,1567	29,7112	36,2544	22,9468
33	Jamuna 20	Cordia macleodii (Griff.) Hook.f.	Boraginaceae	Trees	Deciduous	12,5667	79,0153	507	1,9837	1,9199	Mesophyll	1	909,7328	449,5415	1637,6293	401,8457	130,4480	781,0606	365,2139	57,3841	759,1035	25,5605	-0,0647	207,5921	112,0241	8,9708	428,3399	27,5766	33,2457	21,8857	29,2652	34,6146	24,1523	25,1441	29,8127	20,2887	24,6616	30,8171	18,1567	29,7112	36,2544	22,9468
34	Jamuna 20	Ficus arnottiana (Miq.) Miq.	Moraceae	Trees	Deciduous	12,5667	79,0153	507	1,7246	1,6555	Mesophyll	1	909,7328	449,5415	1637,6293	401,8457	130,4480	781,0606	365,2139	57,3841	759,1035	25,5605	-0,0647	207,5921	112,0241	8,9708	428,3399	27,5766	33,2457	21,8857	29,2652	34,6146	24,1523	25,1441	29,8127	20,2887	24,6616	30,8171	18,1567	29,7112	36,2544	22,9468
35	Jamuna 20	Cassine glauca (Rottb.) Kuntze	Celastraceae	Trees	Deciduous	12,5667	79,0153	507	1,6729	1,6076	Mesophyll	1	909,7328	449,5415	1637,6293	401,8457	130,4480	781,0606	365,2139	57,3841	759,1035	25,5605	-0,0647	207,5921	112,0241	8,9708	428,3399	27,5766	33,2457	21,8857	29,2652	34,6146	24,1523	25,1441	29,8127	20,2887	24,6616	30,8171	18,1567	29,7112	36,2544	22,9468
36	Jamuna 20	Ochna obtusata DC.	Ochnaceae	Trees	Deciduous	12,5667	79,0153	507	1,8237	1,7914	Mesophyll	1	909,7328	449,5415	1637,6293	401,8457	130,4480	781,0606	365,2139	57,3841	759,1035	25,5605	-0,0647	207,5921	112,0241	8,9708	428,3399	27,5766	33,2457	21,8857	29,2652	34,6146	24,1523	25,1441	29,8127	20,2887	24,6616	30,8171	18,1567	29,7112	36,2544	22,9468
37	Jamuna 20	Madhuca longifolia (Koen.) Macbr. var. latifolia (Roxb.) A. Chevel.	Sapotaceae	Trees	Deciduous	12,5667	79,0153	507	2,1774	2,1276	Mesophyll	1	909,7328	449,5415	1637,6293	401,8457	130,4480	781,0606	365,2139	57,3841	759,1035	25,5605	-0,0647	207,5921	112,0241	8,9708	428,3399	27,5766	33,2457	21,8857	29,2652	34,6146	24,1523	25,1441	29,8127	20,2887	24,6616	30,8171	18,1567	29,7112	36,2544	22,9468
38	Jamuna 20	Gardenia gummifera L.f.	Rubiaceae	Trees	Deciduous	12,5667	79,0153	507	1,2461	1,1690	Mesophyll	1	909,7328	449,5415	1637,6293	401,8457	130,4480	781,0606	365,2139	57,3841	759,1035	25,5605	-0,0647	207,5921	112,0241	8,9708	428,3399	27,5766	33,2457	21,8857	29,2652	34,6146	24,1523	25,1441	29,8127	20,2887	24,6616	30,8171	18,1567	29,7112	36,2544	22,9468
39	Kurungulamedu	Diospyros montana Roxb.	Ebenaceae	Trees	Deciduous	12,2664	78,6025	353	1,2454	1,1639	Mesophyll	1	845,8549	256,5722	1591,1216	397,5830	125,8550	772,5784	291,4136	31,5823	681,3134	40,9428	-0,0647	414,4634	132,3566	13,5656	357,3735	27,2142	32,9145	21,3902	28,7104	33,8711	23,4718	24,8421	29,5720	19,9754	24,5397	31,1893	17,7342	29,3754	36,0989	22,4671
40	Kurungulamedu	Holoptelea integrifolia (Roxb.) Planch.	Ulmaceae	Trees	Deciduous	12,2664	78,6025	353	1,1720	1,1167	Microphyll	0,33	845,8549	256,5722	1591,1216	397,5830	125,8550	772,5784	291,4136	31,5823	681,3134	40,9428	-0,0647	414,4634	132,3566	13,5656	357,3735	27,2142	32,9145	21,3902	28,7104	33,8711	23,4718	24,8421	29,5720	19,9754	24,5397	31,1893	17,7342	29,3754	36,0989	22,4671
41	Kurungulamedu	Ficus amplissima Sm.	Moraceae	Trees	Deciduous	12,2664	78,6025	353	1,5862	1,5199	Mesophyll	1	845,8549	256,5722	1591,1216	397,5830	125,8550	772,5784	291,4136	31,5823	681,3134	40,9428	-0,0647	414,4634	132,3566	13,5656	357,3735	27,2142	32,9145	21,3902	28,7104	33,8711	23,4718	24,8421	29,5720	19,9754	24,5397	31,1893	17,7342	29,3754	36,0989	22,4671
42	Kurungulamedu	Tarenna asiatica (L.) Kuntz ex K. Schum.	Rubiaceae	Shrub	Evergreen	12,2664	78,6025	353	1,6437	1,5155	Mesophyll	1	845,8549	256,5722	1591,1216	397,5830	125,8550	772,5784	291,4136	31,5823	681,3134	40,9428	-0,0647	414,4634	132,3566	13,5656	357,3735	27,2142	32,9145	21,3902	28,7104	33,8711	23,4718	24,8421	29,5720	19,9754	24,5397	31,1893	17,7342	29,3754	36,0989	22,4671
43	Kurungulamedu	Atalantia monophylla (L.) DC.	Rutaceae	Trees	Evergreen	12,2664	78,6025	353	0,8069	0,7415	Microphyll	0,5	845,8549	256,5722	1591,1216	397,5830	125,8550	772,5784	291,4136	31,5823	681,3134	40,9428	-0,0647	414,4634	132,3566	13,5656	357,3735	27,2142	32,9145	21,3902	28,7104	33,8711	23,4718	24,8421	29,5720	19,9754	24,5397	31,1893	17,7342	29,3754	36,0989	22,4671
44	Kurungulamedu	Erythroxylum monogynum Roxb.	Erythroxylaceae	Trees	Evergreen	12,2664	78,6025	353	0,8058	0,7097	Mesophyll	1	845,8549	256,5722	1591,1216	397,5830	125,8550	772,5784	291,4136	31,5823	681,3134	40,9428	-0,0647	414,4634	132,3566	13,5656	357,3735	27,2142	32,9145	21,3902	28,7104	33,8711	23,4718	24,8421	29,5720	19,9754	24,5397	31,1893	17,7342	29,3754	36,0989	22,4671
45	Kurungulamedu	Santalum album L.	Santalaceae	Trees	Evergreen	12,2664	78,6025	353	1,0425	0,9425	Mesophyll	1	845,8549	256,5722	1591,1216	397,5830	125,8550	772,5784	291,4136	31,5823	681,3134	40,9428	-0,0647	414,4634	132,3566	13,5656	357,3735	27,2142	32,9145	21,3902	28,7104	33,8711	23,4718	24,8421	29,5720	19,9754	24,5397	31,1893	17,7342	29,3754	36,0989	22,4671
46	Alagarhills	Memecylon umbellatum Burm. f.	Melastomataceae	Shrub	Evergreen	10,1029	78,2321	593	0,8931	0,8204	Mesophyll	1	882,4239	443,5399	1516,0013	320,2960	94,4405	717,6583	390,9484	120,1442	855,9944	32,3024	-0,0647	191,5406	139,8852	13,0405	380,5183	28,1338	33,2281	23,1519	29,7913	35,0432	24,5026	25,9289	30,1816	21,8702	25,6165	30,5311	20,4989	29,8308	35,4399	24,4008
47	Alagarhills	Pterospermum reticulatum Wight and Arn.	Malvaceae	Trees	Evergreen	10,1029	78,2321	593	1,4348	1,3981	Mesophyll	1	882,4239	443,5399	1516,0013	320,2960	94,4405	717,6583	390,9484	120,1442	855,9944	32,3024	-0,0647	191,5406	139,8852	13,0405	380,5183	28,1338	33,2281	23,1519	29,7913	35,0432	24,5026	25,9289	30,1816	21,8702	25,6165	30,5311	20,4989	29,8308	35,4399	24,4008
48	Alagarhills	Suregada angustifolia (Baill. ex Muell.-Arg.) Airy Shaw	Euphorbiaceae	Trees	Evergreen	10,1029	78,2321	593	1,2272	1,1848	Mesophyll	1	882,4239	443,5399	1516,0013	320,2960	94,4405	717,6583	390,9484	120,1442	855,9944	32,3024	-0,0647	191,5406	139,8852	13,0405	380,5183	28,1338	33,2281	23,1519	29,7913	35,0432	24,5026	25,9289	30,1816	21,8702	25,6165	30,5311	20,4989	29,8308	35,4399	24,4008
49	Alagarhills	Grewia orbiculata Rottl.	Malvaceae	Trees	Deciduous	10,1029	78,2321	593	1,4182	1,3500	Mesophyll	1	882,4239	443,5399	1516,0013	320,2960	94,4405	717,6583	390,9484	120,1442	855,9944	32,3024	-0,0647	191,5406	139,8852	13,0405	380,5183	28,1338	33,2281	23,1519	29,7913	35,0432	24,5026	25,9289	30,1816	21,8702	25,6165	30,5311	20,4989	29,8308	35,4399	24,4008
50	Alagarhills	Dodonaea viscosa (L.) Jacq.	Sapindaceae	Shrub	Deciduous	10,1029	78,2321	593	1,0035	0,9716	Mesophyll	1	882,4239	443,5399	1516,0013	320,2960	94,4405	717,6583	390,9484	120,1442	855,9944	32,3024	-0,0647	191,5406	139,8852	13,0405	380,5183	28,1338	33,2281	23,1519	29,7913	35,0432	24,5026	25,9289	30,1816	21,8702	25,6165	30,5311	20,4989	29,8308	35,4399	24,4008
51	Alagarhills	Atalantia monophylla (L.) DC.	Rutaceae	Trees	Evergreen	10,1029	78,2321	593	1,0995	1,0597	Mesophyll	1	882,4239	443,5399	1516,0013	320,2960	94,4405	717,6583	390,9484	120,1442	855,9944	32,3024	-0,0647	191,5406	139,8852	13,0405	380,5183	28,1338	33,2281	23,1519	29,7913	35,0432	24,5026	25,9289	30,1816	21,8702	25,6165	30,5311	20,4989	29,8308	35,4399	24,4008
52	Alagarhills	Buchanania axillaris (Desr.) Raman	Anacardiaceae	Trees	Deciduous	10,1029	78,2321	593	1,6904	1,6621	Mesophyll	1	882,4239	443,5399	1516,0013	320,2960	94,4405	717,6583	390,9484	120,1442	855,9944	32,3024	-0,0647	191,5406	139,8852	13,0405	380,5183	28,1338	33,2281	23,1519	29,7913	35,0432	24,5026	25,9289	30,1816	21,8702	25,6165	30,5311	20,4989	29,8308	35,4399	24,4008
53	Alagarhills1	Erythroxylum monogynum Roxb.	Erythroxylaceae	Trees	Evergreen	10,1025	78,2327	650	0,7181	0,6537	Mesophyll	1	882,4160	443,5057	1515,9986	320,3235	94,4605	717,6588	390,8468	120,1258	855,8263	32,3008	-0,0647	191,5528	139,8566	13,0173	380,4707	28,1388	33,2326	23,1573	29,7967	35,0488	24,5082	25,9338	30,1860	21,8754	25,6212	30,5338	20,5042	29,8357	35,4445	24,4063
54	Alagarhills1	Flueggea leucopyrus Willd.	Euphorbiaceae	Shrub	Deciduous	10,1025	78,2327	650	0,3847	0,2927	Mesophyll	1	882,4160	443,5057	1515,9986	320,3235	94,4605	717,6588	390,8468	120,1258	855,8263	32,3008	-0,0647	191,5528	139,8566	13,0173	380,4707	28,1388	33,2326	23,1573	29,7967	35,0488	24,5082	25,9338	30,1860	21,8754	25,6212	30,5338	20,5042	29,8357	35,4445	24,4063
55	Alagarhills1	Manilkara hexandra (Roxb.) Dubard	Sapotaceae	Trees	Evergreen	10,1025	78,2327	650	1,6192	1,5871	Mesophyll	1	882,4160	443,5057	1515,9986	320,3235	94,4605	717,6588	390,8468	120,1258	855,8263	32,3008	-0,0647	191,5528	139,8566	13,0173	380,4707	28,1388	33,2326	23,1573	29,7967	35,0488	24,5082	25,9338	30,1860	21,8754	25,6212	30,5338	20,5042	29,8357	35,4445	24,4063
56	Alagarhills1	Chionanthus zeylanicus L.	Oleaceae	Trees	Evergreen	10,1025	78,2327	650	1,1998	1,1722	Mesophyll	1	882,4160	443,5057	1515,9986	320,3235	94,4605	717,6588	390,8468	120,1258	855,8263	32,3008	-0,0647	191,5528	139,8566	13,0173	380,4707	28,1388	33,2326	23,1573	29,7967	35,0488	24,5082	25,9338	30,1860	21,8754	25,6212	30,5338	20,5042	29,8357	35,4445	24,4063
57	Alagarhills1	Sapindus emarginatus Vahl.	Sapindaceae	Trees	Deciduous	10,1025	78,2327	650	1,5904	1,5574	Mesophyll	1	882,4160	443,5057	1515,9986	320,3235	94,4605	717,6588	390,8468	120,1258	855,8263	32,3008	-0,0647	191,5528	139,8566	13,0173	380,4707	28,1388	33,2326	23,1573	29,7967	35,0488	24,5082	25,9338	30,1860	21,8754	25,6212	30,5338	20,5042	29,8357	35,4445	24,4063
58	Alagarhills1	Psydrax dicoccos Gaertn.	Rubiaceae	Trees	Evergreen	10,1025	78,2327	650	1,4652	1,4442	Microphyll	0,5	882,4160	443,5057	1515,9986	320,3235	94,4605	717,6588	390,8468	120,1258	855,8263	32,3008	-0,0647	191,5528	139,8566	13,0173	380,4707	28,1388	33,2326	23,1573	29,7967	35,0488	24,5082	25,9338	30,1860	21,8754	25,6212	30,5338	20,5042	29,8357	35,4445	24,4063
59	Alagarhills1	Casearia elliptica Willd.	Salicaceae	Shrub	Deciduous	10,1025	78,2327	650	1,5378	1,4820	Mesophyll	1	882,4160	443,5057	1515,9986	320,3235	94,4605	717,6588	390,8468	120,1258	855,8263	32,3008	-0,0647	191,5528	139,8566	13,0173	380,4707	28,1388	33,2326	23,1573	29,7967	35,0488	24,5082	25,9338	30,1860	21,8754	25,6212	30,5338	20,5042	29,8357	35,4445	24,4063
60	Alagarhills1	Miliusa tomentosa (Roxb.) J. Sinclair	Annonaceae	Trees	Deciduous	10,1025	78,2327	650	1,4746	1,4530	Mesophyll	1	882,4160	443,5057	1515,9986	320,3235	94,4605	717,6588	390,8468	120,1258	855,8263	32,3008	-0,0647	191,5528	139,8566	13,0173	380,4707	28,1388	33,2326	23,1573	29,7967	35,0488	24,5082	25,9338	30,1860	21,8754	25,6212	30,5338	20,5042	29,8357	35,4445	24,4063
61	Alagarhills1	Chionanthus ramiflora Roxb.	Oleaceae	Trees	Evergreen	10,1025	78,2327	650	1,5938	1,5546	Mesophyll	1	882,4160	443,5057	1515,9986	320,3235	94,4605	717,6588	390,8468	120,1258	855,8263	32,3008	-0,0647	191,5528	139,8566	13,0173	380,4707	28,1388	33,2326	23,1573	29,7967	35,0488	24,5082	25,9338	30,1860	21,8754	25,6212	30,5338	20,5042	29,8357	35,4445	24,4063
62	Alagarhills1	Ixora pavetta Andr.	Rubiaceae	Trees	Evergreen	10,1025	78,2327	650	1,7466	1,7018	Microphyll	0,5	882,4160	443,5057	1515,9986	320,3235	94,4605	717,6588	390,8468	120,1258	855,8263	32,3008	-0,0647	191,5528	139,8566	13,0173	380,4707	28,1388	33,2326	23,1573	29,7967	35,0488	24,5082	25,9338	30,1860	21,8754	25,6212	30,5338	20,5042	29,8357	35,4445	24,4063
63	Alagarhills1	Hugonia mystax L.	Linaceae	Climbing Shrub	Evergreen	10,1025	78,2327	650	1,0774	1,0429	Mesophyll	1	882,4160	443,5057	1515,9986	320,3235	94,4605	717,6588	390,8468	120,1258	855,8263	32,3008	-0,0647	191,5528	139,8566	13,0173	380,4707	28,1388	33,2326	23,1573	29,7967	35,0488	24,5082	25,9338	30,1860	21,8754	25,6212	30,5338	20,5042	29,8357	35,4445	24,4063
64	Alagarhills1	Drypetes sepiaria (Wight and Arn.) Pax and Hoffm.	Euphorbiaceae	Trees	Evergreen	10,1025	78,2327	650	1,1930	1,1626	Microphyll	0,5	882,4160	443,5057	1515,9986	320,3235	94,4605	717,6588	390,8468	120,1258	855,8263	32,3008	-0,0647	191,5528	139,8566	13,0173	380,4707	28,1388	33,2326	23,1573	29,7967	35,0488	24,5082	25,9338	30,1860	21,8754	25,6212	30,5338	20,5042	29,8357	35,4445	24,4063
65	Alagarhills1	Walsura trifolia (A. Juss.) Harms	Meliaceae	Trees	Evergreen	10,1025	78,2327	650	1,3366	1,2345	Mesophyll	1	882,4160	443,5057	1515,9986	320,3235	94,4605	717,6588	390,8468	120,1258	855,8263	32,3008	-0,0647	191,5528	139,8566	13,0173	380,4707	28,1388	33,2326	23,1573	29,7967	35,0488	24,5082	25,9338	30,1860	21,8754	25,6212	30,5338	20,5042	29,8357	35,4445	24,4063
66	Alagarhills1	Shorea tumbaggaia Roxb.	Dipterocarpaceae	Trees	Evergreen	10,1025	78,2327	650	1,7553	1,7142	Mesophyll	1	882,4160	443,5057	1515,9986	320,3235	94,4605	717,6588	390,8468	120,1258	855,8263	32,3008	-0,0647	191,5528	139,8566	13,0173	380,4707	28,1388	33,2326	23,1573	29,7967	35,0488	24,5082	25,9338	30,1860	21,8754	25,6212	30,5338	20,5042	29,8357	35,4445	24,4063
67	Alagarhills1	Syzygium alternifolium (Wight) Walp.	Myrtaceae	Trees	Deciduous	10,1025	78,2327	650	1,8877	1,8631	Mesophyll	1	882,4160	443,5057	1515,9986	320,3235	94,4605	717,6588	390,8468	120,1258	855,8263	32,3008	-0,0647	191,5528	139,8566	13,0173	380,4707	28,1388	33,2326	23,1573	29,7967	35,0488	24,5082	25,9338	30,1860	21,8754	25,6212	30,5338	20,5042	29,8357	35,4445	24,4063
68	Alagarhills1	Gardenia resinifera Roth.	Rubiaceae	Trees	Deciduous	10,1025	78,2327	650	1,5850	1,5521	Mesophyll	1	882,4160	443,5057	1515,9986	320,3235	94,4605	717,6588	390,8468	120,1258	855,8263	32,3008	-0,0647	191,5528	139,8566	13,0173	380,4707	28,1388	33,2326	23,1573	29,7967	35,0488	24,5082	25,9338	30,1860	21,8754	25,6212	30,5338	20,5042	29,8357	35,4445	24,4063
69	Alagarhills1	Maytenus emarginata (Willd.) Ding Hou	Celastraceae	Shrub	Deciduous	10,1025	78,2327	650	1,2221	1,1307	Mesophyll	1	882,4160	443,5057	1515,9986	320,3235	94,4605	717,6588	390,8468	120,1258	855,8263	32,3008	-0,0647	191,5528	139,8566	13,0173	380,4707	28,1388	33,2326	23,1573	29,7967	35,0488	24,5082	25,9338	30,1860	21,8754	25,6212	30,5338	20,5042	29,8357	35,4445	24,4063
70	Alagarhills	Tarenna asiatica (L.) Kuntz ex K. Schum.	Rubiaceae	Shrub	Evergreen	10,1029	78,2321	593	1,7942	1,7033	Mesophyll	1	882,4239	443,5399	1516,0013	320,2960	94,4405	717,6583	390,9484	120,1442	855,9944	32,3024	-0,0647	191,5406	139,8852	13,0405	380,5183	28,1338	33,2281	23,1519	29,7913	35,0432	24,5026	25,9289	30,1816	21,8702	25,6165	30,5311	20,4989	29,8308	35,4399	24,4008
71	Alagarhills2	Semecarpus anacardium L.f.	Anacardiaceae	Trees	Deciduous	10,1041	78,2305	600	2,5135	2,4648	Mesophyll	1	882,4464	443,6429	1516,0089	320,2122	94,3799	717,6564	391,2561	120,1992	856,5052	32,3073	-0,0647	191,5052	139,9719	13,1110	380,6642	28,1185	33,2141	23,1353	29,7749	35,0262	24,4854	25,9137	30,1683	21,8547	25,6023	30,5229	20,4827	29,8156	35,4260	24,3838
72	Alagarhills2	Terminalia alata Heyne ex Roth.	Combretaceae	Trees	Deciduous	10,1041	78,2305	600	2,1273	2,0561	Mesophyll	1	882,4464	443,6429	1516,0089	320,2122	94,3799	717,6564	391,2561	120,1992	856,5052	32,3073	-0,0647	191,5052	139,9719	13,1110	380,6642	28,1185	33,2141	23,1353	29,7749	35,0262	24,4854	25,9137	30,1683	21,8547	25,6023	30,5229	20,4827	29,8156	35,4260	24,3838
73	Alagarhills2	Terminalia chebula Retz.	Combretaceae	Trees	Deciduous	10,1041	78,2305	600	1,7192	1,6728	Mesophyll	1	882,4464	443,6429	1516,0089	320,2122	94,3799	717,6564	391,2561	120,1992	856,5052	32,3073	-0,0647	191,5052	139,9719	13,1110	380,6642	28,1185	33,2141	23,1353	29,7749	35,0262	24,4854	25,9137	30,1683	21,8547	25,6023	30,5229	20,4827	29,8156	35,4260	24,3838
74	Alagarhills2	Strychnos potatorum L. f.	Loganiaceae	Trees	Deciduous	10,1041	78,2305	600	1,3321	1,3106	Mesophyll	1	882,4464	443,6429	1516,0089	320,2122	94,3799	717,6564	391,2561	120,1992	856,5052	32,3073	-0,0647	191,5052	139,9719	13,1110	380,6642	28,1185	33,2141	23,1353	29,7749	35,0262	24,4854	25,9137	30,1683	21,8547	25,6023	30,5229	20,4827	29,8156	35,4260	24,3838
75	Alagarhills2	Anogeissus latifolia (Roxb. ex DC.) Wall. ex Guill. and Perr.	Combretaceae	Trees	Deciduous	10,1041	78,2305	600	1,4312	1,3841	Microphyll	0,5	882,4464	443,6429	1516,0089	320,2122	94,3799	717,6564	391,2561	120,1992	856,5052	32,3073	-0,0647	191,5052	139,9719	13,1110	380,6642	28,1185	33,2141	23,1353	29,7749	35,0262	24,4854	25,9137	30,1683	21,8547	25,6023	30,5229	20,4827	29,8156	35,4260	24,3838
76	Alagarhills2	Mallotus stenanthus Muell.-Arg.	Euphorbiaceae	Trees	Evergreen	10,1041	78,2305	600	1,8856	1,8399	Microphyll	0,5	882,4464	443,6429	1516,0089	320,2122	94,3799	717,6564	391,2561	120,1992	856,5052	32,3073	-0,0647	191,5052	139,9719	13,1110	380,6642	28,1185	33,2141	23,1353	29,7749	35,0262	24,4854	25,9137	30,1683	21,8547	25,6023	30,5229	20,4827	29,8156	35,4260	24,3838
77	Karanthamalai (kannimara koil)	Ficus beddomei King	Moraceae	Trees	Evergreen	10,2755	78,1939	384	2,3384	2,1389	Mesophyll	1	876,3038	456,2848	1523,9114	301,7880	79,8384	717,7171	407,0532	122,4531	866,0609	35,6445	-0,0647	185,0292	142,5969	14,5708	377,6975	27,0130	32,1768	21,9723	28,6217	33,7110	23,2577	24,8607	29,2772	20,7775	24,5629	30,0137	19,2766	28,7059	34,3903	23,2491
78	Karanthamalai (kannimara koil)	Terminalia arjuna (Roxb. ex DC.) Wt. and Arn.	Combretaceae	Trees	Deciduous	10,2755	78,1939	384	2,0165	1,9304	Mesophyll	1	876,3038	456,2848	1523,9114	301,7880	79,8384	717,7171	407,0532	122,4531	866,0609	35,6445	-0,0647	185,0292	142,5969	14,5708	377,6975	27,0130	32,1768	21,9723	28,6217	33,7110	23,2577	24,8607	29,2772	20,7775	24,5629	30,0137	19,2766	28,7059	34,3903	23,2491
79	Karanthamalai (kannimara koil)	Tarenna asiatica (L.) Kuntz ex K. Schum.	Rubiaceae	Shrub	Evergreen	10,2755	78,1939	384	1,9421	1,8589	Mesophyll	1	876,3038	456,2848	1523,9114	301,7880	79,8384	717,7171	407,0532	122,4531	866,0609	35,6445	-0,0647	185,0292	142,5969	14,5708	377,6975	27,0130	32,1768	21,9723	28,6217	33,7110	23,2577	24,8607	29,2772	20,7775	24,5629	30,0137	19,2766	28,7059	34,3903	23,2491
80	Karanthamalai (kannimara koil)	Schefflera stellata (Gaertn.) Harms	Araliaceae	Climbing Shrub	Evergreen	10,2755	78,1939	384	1,9350	1,8564	Mesophyll	1	876,3038	456,2848	1523,9114	301,7880	79,8384	717,7171	407,0532	122,4531	866,0609	35,6445	-0,0647	185,0292	142,5969	14,5708	377,6975	27,0130	32,1768	21,9723	28,6217	33,7110	23,2577	24,8607	29,2772	20,7775	24,5629	30,0137	19,2766	28,7059	34,3903	23,2491
81	Karanthamalai (kannimara koil)	Celtis philippensis Blanco var. wightii (Planch.) Soep.	Ulmaceae	Trees	Evergreen	10,2755	78,1939	384	1,4903	1,3833	Mesophyll	1	876,3038	456,2848	1523,9114	301,7880	79,8384	717,7171	407,0532	122,4531	866,0609	35,6445	-0,0647	185,0292	142,5969	14,5708	377,6975	27,0130	32,1768	21,9723	28,6217	33,7110	23,2577	24,8607	29,2772	20,7775	24,5629	30,0137	19,2766	28,7059	34,3903	23,2491
82	Karanthamalai (kannimara koil)	Psydrax dicoccos Gaertn.	Rubiaceae	Trees	Evergreen	10,2755	78,1939	384	1,6741	1,6407	Microphyll	0,5	876,3038	456,2848	1523,9114	301,7880	79,8384	717,7171	407,0532	122,4531	866,0609	35,6445	-0,0647	185,0292	142,5969	14,5708	377,6975	27,0130	32,1768	21,9723	28,6217	33,7110	23,2577	24,8607	29,2772	20,7775	24,5629	30,0137	19,2766	28,7059	34,3903	23,2491
83	Karanthamalai (kannimara koil)	Manilkara hexandra (Roxb.) Dubard	Sapotaceae	Trees	Evergreen	10,2755	78,1939	384	1,5603	1,5029	Mesophyll	1	876,3038	456,2848	1523,9114	301,7880	79,8384	717,7171	407,0532	122,4531	866,0609	35,6445	-0,0647	185,0292	142,5969	14,5708	377,6975	27,0130	32,1768	21,9723	28,6217	33,7110	23,2577	24,8607	29,2772	20,7775	24,5629	30,0137	19,2766	28,7059	34,3903	23,2491
84	Karanthamalai (kannimara koil)	Ixora pavetta Andr.	Rubiaceae	Trees	Evergreen	10,2755	78,1939	384	1,9462	1,9089	Microphyll	0,5	876,3038	456,2848	1523,9114	301,7880	79,8384	717,7171	407,0532	122,4531	866,0609	35,6445	-0,0647	185,0292	142,5969	14,5708	377,6975	27,0130	32,1768	21,9723	28,6217	33,7110	23,2577	24,8607	29,2772	20,7775	24,5629	30,0137	19,2766	28,7059	34,3903	23,2491
85	Karanthamalai (kannimara koil)	Diospyros montana Roxb.	Ebenaceae	Trees	Deciduous	10,2755	78,1939	384	1,1148	1,0080	Mesophyll	1	876,3038	456,2848	1523,9114	301,7880	79,8384	717,7171	407,0532	122,4531	866,0609	35,6445	-0,0647	185,0292	142,5969	14,5708	377,6975	27,0130	32,1768	21,9723	28,6217	33,7110	23,2577	24,8607	29,2772	20,7775	24,5629	30,0137	19,2766	28,7059	34,3903	23,2491
86	Karanthamalai (kannimara koil)	Bauhinia racemosa Lam.	Fabaceae	Trees	Deciduous	10,2755	78,1939	384	1,2185	1,1600	Mesophyll	1	876,3038	456,2848	1523,9114	301,7880	79,8384	717,7171	407,0532	122,4531	866,0609	35,6445	-0,0647	185,0292	142,5969	14,5708	377,6975	27,0130	32,1768	21,9723	28,6217	33,7110	23,2577	24,8607	29,2772	20,7775	24,5629	30,0137	19,2766	28,7059	34,3903	23,2491
87	Karanthamalai (kannimara koil)	Wrightia tinctoria (Roxb.) R. Br.	Apocynaceae	Trees	Deciduous	10,2755	78,1939	384	1,7569	1,6877	Mesophyll	1	876,3038	456,2848	1523,9114	301,7880	79,8384	717,7171	407,0532	122,4531	866,0609	35,6445	-0,0647	185,0292	142,5969	14,5708	377,6975	27,0130	32,1768	21,9723	28,6217	33,7110	23,2577	24,8607	29,2772	20,7775	24,5629	30,0137	19,2766	28,7059	34,3903	23,2491
88	Karanthamalai (kannimara koil)	Alangium salvifolium (L. f.) Wang.	Cornaceae	Trees	Deciduous	10,2755	78,1939	384	1,6601	1,6026	Mesophyll	1	876,3038	456,2848	1523,9114	301,7880	79,8384	717,7171	407,0532	122,4531	866,0609	35,6445	-0,0647	185,0292	142,5969	14,5708	377,6975	27,0130	32,1768	21,9723	28,6217	33,7110	23,2577	24,8607	29,2772	20,7775	24,5629	30,0137	19,2766	28,7059	34,3903	23,2491
89	Karanthamalai (kannimara koil)	Lepisanthes senegalensis (Juss. ex. Poir.) Leenh.	Sapindaceae	Trees	Evergreen	10,2755	78,1939	384	1,4214	1,3673	Mesophyll	1	876,3038	456,2848	1523,9114	301,7880	79,8384	717,7171	407,0532	122,4531	866,0609	35,6445	-0,0647	185,0292	142,5969	14,5708	377,6975	27,0130	32,1768	21,9723	28,6217	33,7110	23,2577	24,8607	29,2772	20,7775	24,5629	30,0137	19,2766	28,7059	34,3903	23,2491
90	Karanthamalai (kannimara koil)	Strychnos nux-vomica L.	Loganiaceae	Trees	Deciduous	10,2755	78,1939	384	1,6998	1,6616	Mesophyll	1	876,3038	456,2848	1523,9114	301,7880	79,8384	717,7171	407,0532	122,4531	866,0609	35,6445	-0,0647	185,0292	142,5969	14,5708	377,6975	27,0130	32,1768	21,9723	28,6217	33,7110	23,2577	24,8607	29,2772	20,7775	24,5629	30,0137	19,2766	28,7059	34,3903	23,2491
91	Karanthamalai (kannimara koil)	Ficus mollis Vahl.	Moraceae	Trees	Deciduous	10,2755	78,1939	384	2,0334	1,9667	Microphyll	0,5	876,3038	456,2848	1523,9114	301,7880	79,8384	717,7171	407,0532	122,4531	866,0609	35,6445	-0,0647	185,0292	142,5969	14,5708	377,6975	27,0130	32,1768	21,9723	28,6217	33,7110	23,2577	24,8607	29,2772	20,7775	24,5629	30,0137	19,2766	28,7059	34,3903	23,2491
92	Karanthamalai (kannimara koil)	Pavetta indica L.	Rubiaceae	Trees	Evergreen	10,2755	78,1939	384	1,6522	1,6047	Mesophyll	1	876,3038	456,2848	1523,9114	301,7880	79,8384	717,7171	407,0532	122,4531	866,0609	35,6445	-0,0647	185,0292	142,5969	14,5708	377,6975	27,0130	32,1768	21,9723	28,6217	33,7110	23,2577	24,8607	29,2772	20,7775	24,5629	30,0137	19,2766	28,7059	34,3903	23,2491
93	Karanthamalai (kannimara koil)	Holoptelea integrifolia (Roxb.) Planch.	Ulmaceae	Trees	Deciduous	10,2755	78,1939	384	1,6524	1,5958	Microphyll	0,33	876,3038	456,2848	1523,9114	301,7880	79,8384	717,7171	407,0532	122,4531	866,0609	35,6445	-0,0647	185,0292	142,5969	14,5708	377,6975	27,0130	32,1768	21,9723	28,6217	33,7110	23,2577	24,8607	29,2772	20,7775	24,5629	30,0137	19,2766	28,7059	34,3903	23,2491
94	Karanthamalai (kannimara koil)	Strychnos potatorum L. f.	Loganiaceae	Trees	Deciduous	10,2755	78,1939	384	1,4065	1,3807	Mesophyll	1	876,3038	456,2848	1523,9114	301,7880	79,8384	717,7171	407,0532	122,4531	866,0609	35,6445	-0,0647	185,0292	142,5969	14,5708	377,6975	27,0130	32,1768	21,9723	28,6217	33,7110	23,2577	24,8607	29,2772	20,7775	24,5629	30,0137	19,2766	28,7059	34,3903	23,2491
95	Karanthamalai (kannimara koil)	Drypetes sepiaria (Wight and Arn.) Pax and Hoffm.	Euphorbiaceae	Trees	Evergreen	10,2755	78,1939	384	1,1599	1,1081	Microphyll	0,5	876,3038	456,2848	1523,9114	301,7880	79,8384	717,7171	407,0532	122,4531	866,0609	35,6445	-0,0647	185,0292	142,5969	14,5708	377,6975	27,0130	32,1768	21,9723	28,6217	33,7110	23,2577	24,8607	29,2772	20,7775	24,5629	30,0137	19,2766	28,7059	34,3903	23,2491
96	Sirumalai RF	Olea dioica Roxb.	Oleaceae	Trees	Evergreen	10,2269	77,9813	1201	1,5475	1,4751	Mesophyll	1	845,5598	450,0679	1487,2692	269,9480	71,4088	686,7391	407,9080	120,7975	932,3942	34,2516	-0,0647	202,0380	150,9160	21,5178	396,9745	24,8141	29,9048	19,8348	26,2404	31,1555	21,0514	22,8181	27,1910	18,7644	22,5685	28,3058	17,2552	26,4267	31,9726	21,0010
97	Sirumalai RF	Maesa indica (Roxb.) DC.	Primulaceae	Trees	Evergreen	10,2269	77,9813	1201	1,9111	1,8053	Mesophyll	1	845,5598	450,0679	1487,2692	269,9480	71,4088	686,7391	407,9080	120,7975	932,3942	34,2516	-0,0647	202,0380	150,9160	21,5178	396,9745	24,8141	29,9048	19,8348	26,2404	31,1555	21,0514	22,8181	27,1910	18,7644	22,5685	28,3058	17,2552	26,4267	31,9726	21,0010
98	Sirumalai RF	Ardisia solanacea Roxb.	Primulaceae	Shrub	Evergreen	10,2269	77,9813	1201	1,9471	1,7678	Mesophyll	1	845,5598	450,0679	1487,2692	269,9480	71,4088	686,7391	407,9080	120,7975	932,3942	34,2516	-0,0647	202,0380	150,9160	21,5178	396,9745	24,8141	29,9048	19,8348	26,2404	31,1555	21,0514	22,8181	27,1910	18,7644	22,5685	28,3058	17,2552	26,4267	31,9726	21,0010
99	Sirumalai RF	Neolitsea cassia (L.) Kosterm.	Lauraceae	Trees	Evergreen	10,2269	77,9813	1201	1,5768	1,4991	Mesophyll	1	845,5598	450,0679	1487,2692	269,9480	71,4088	686,7391	407,9080	120,7975	932,3942	34,2516	-0,0647	202,0380	150,9160	21,5178	396,9745	24,8141	29,9048	19,8348	26,2404	31,1555	21,0514	22,8181	27,1910	18,7644	22,5685	28,3058	17,2552	26,4267	31,9726	21,0010
100	Sirumalai RF	Cassine glauca (Rottb.) Kuntze	Celastraceae	Trees	Evergreen	10,2269	77,9813	1201	1,5336	1,4597	Mesophyll	1	845,5598	450,0679	1487,2692	269,9480	71,4088	686,7391	407,9080	120,7975	932,3942	34,2516	-0,0647	202,0380	150,9160	21,5178	396,9745	24,8141	29,9048	19,8348	26,2404	31,1555	21,0514	22,8181	27,1910	18,7644	22,5685	28,3058	17,2552	26,4267	31,9726	21,0010
101	Sirumalai RF	Syzygium cumini (L.) Skeels	Myrtaceae	Trees	Evergreen	10,2269	77,9813	1201	1,5734	1,4997	Microphyll	0,5	845,5598	450,0679	1487,2692	269,9480	71,4088	686,7391	407,9080	120,7975	932,3942	34,2516	-0,0647	202,0380	150,9160	21,5178	396,9745	24,8141	29,9048	19,8348	26,2404	31,1555	21,0514	22,8181	27,1910	18,7644	22,5685	28,3058	17,2552	26,4267	31,9726	21,0010
102	Sirumalai RF	Buchanania lanzan Spreng.	Anacardiaceae	Trees	Deciduous	10,2269	77,9813	1201	2,0100	1,9850	Mesophyll	1	845,5598	450,0679	1487,2692	269,9480	71,4088	686,7391	407,9080	120,7975	932,3942	34,2516	-0,0647	202,0380	150,9160	21,5178	396,9745	24,8141	29,9048	19,8348	26,2404	31,1555	21,0514	22,8181	27,1910	18,7644	22,5685	28,3058	17,2552	26,4267	31,9726	21,0010
103	Sirumalai RF	Cipadessa baccifera (Roth) Miq.	Meliaceae	Trees	Evergreen	10,2269	77,9813	1201	1,4554	1,3867	Mesophyll	1	845,5598	450,0679	1487,2692	269,9480	71,4088	686,7391	407,9080	120,7975	932,3942	34,2516	-0,0647	202,0380	150,9160	21,5178	396,9745	24,8141	29,9048	19,8348	26,2404	31,1555	21,0514	22,8181	27,1910	18,7644	22,5685	28,3058	17,2552	26,4267	31,9726	21,0010
104	Sirumalai RF	Ligustrum perrottetii DC.	Oleaceae	Trees	Evergreen	10,2269	77,9813	1201	1,2499	1,1875	Mesophyll	1	845,5598	450,0679	1487,2692	269,9480	71,4088	686,7391	407,9080	120,7975	932,3942	34,2516	-0,0647	202,0380	150,9160	21,5178	396,9745	24,8141	29,9048	19,8348	26,2404	31,1555	21,0514	22,8181	27,1910	18,7644	22,5685	28,3058	17,2552	26,4267	31,9726	21,0010
105	Sirumalai RF	Catunaregam torulosa Tirvengadam	Rubiaceae	Trees	Deciduous	10,2269	77,9813	1201	1,3906	1,2873	Mesophyll	1	845,5598	450,0679	1487,2692	269,9480	71,4088	686,7391	407,9080	120,7975	932,3942	34,2516	-0,0647	202,0380	150,9160	21,5178	396,9745	24,8141	29,9048	19,8348	26,2404	31,1555	21,0514	22,8181	27,1910	18,7644	22,5685	28,3058	17,2552	26,4267	31,9726	21,0010
106	Sirumalai RF	Litsea deccanensis Gamble	Lauraceae	Trees	Evergreen	10,2269	77,9813	1201	1,7331	1,7022	Mesophyll	1	845,5598	450,0679	1487,2692	269,9480	71,4088	686,7391	407,9080	120,7975	932,3942	34,2516	-0,0647	202,0380	150,9160	21,5178	396,9745	24,8141	29,9048	19,8348	26,2404	31,1555	21,0514	22,8181	27,1910	18,7644	22,5685	28,3058	17,2552	26,4267	31,9726	21,0010
107	Sirumalai RF	Bridelia crenulata Roxb.	Euphorbiaceae	Trees	Deciduous	10,2269	77,9813	1201	1,7691	1,6970	Mesophyll	1	845,5598	450,0679	1487,2692	269,9480	71,4088	686,7391	407,9080	120,7975	932,3942	34,2516	-0,0647	202,0380	150,9160	21,5178	396,9745	24,8141	29,9048	19,8348	26,2404	31,1555	21,0514	22,8181	27,1910	18,7644	22,5685	28,3058	17,2552	26,4267	31,9726	21,0010
108	Sirumalai RF	Euodia lunu-ankenda (Gaertn.) Merr.	Rutaceae	Trees	Evergreen	10,2269	77,9813	1201	2,0160	1,9812	Mesophyll	1	845,5598	450,0679	1487,2692	269,9480	71,4088	686,7391	407,9080	120,7975	932,3942	34,2516	-0,0647	202,0380	150,9160	21,5178	396,9745	24,8141	29,9048	19,8348	26,2404	31,1555	21,0514	22,8181	27,1910	18,7644	22,5685	28,3058	17,2552	26,4267	31,9726	21,0010
109	Sirumalai RF	Careya arborea Roxb.	Lecythidaceae	Trees	Deciduous	10,2269	77,9813	1201	2,2932	2,2822	Mesophyll	1	845,5598	450,0679	1487,2692	269,9480	71,4088	686,7391	407,9080	120,7975	932,3942	34,2516	-0,0647	202,0380	150,9160	21,5178	396,9745	24,8141	29,9048	19,8348	26,2404	31,1555	21,0514	22,8181	27,1910	18,7644	22,5685	28,3058	17,2552	26,4267	31,9726	21,0010
110	Sirumalai RF	Mallotus philippensis (Lam.) Muell.-Arg.	Euphorbiaceae	Trees	Evergreen	10,2269	77,9813	1201	1,9297	1,8763	Microphyll	0,5	845,5598	450,0679	1487,2692	269,9480	71,4088	686,7391	407,9080	120,7975	932,3942	34,2516	-0,0647	202,0380	150,9160	21,5178	396,9745	24,8141	29,9048	19,8348	26,2404	31,1555	21,0514	22,8181	27,1910	18,7644	22,5685	28,3058	17,2552	26,4267	31,9726	21,0010
111	Sirumalai RF	Wendlandia thyrsoidea (Schult.) Steud.	Rubiaceae	Trees	Evergreen	10,2269	77,9813	1201	1,8333	1,7650	Microphyll	0,5	845,5598	450,0679	1487,2692	269,9480	71,4088	686,7391	407,9080	120,7975	932,3942	34,2516	-0,0647	202,0380	150,9160	21,5178	396,9745	24,8141	29,9048	19,8348	26,2404	31,1555	21,0514	22,8181	27,1910	18,7644	22,5685	28,3058	17,2552	26,4267	31,9726	21,0010
112	Sirumalai RF	Persea macrantha (Nees) Kosterm.	Lauraceae	Trees	Evergreen	10,2269	77,9813	1201	1,9123	1,8584	Mesophyll	1	845,5598	450,0679	1487,2692	269,9480	71,4088	686,7391	407,9080	120,7975	932,3942	34,2516	-0,0647	202,0380	150,9160	21,5178	396,9745	24,8141	29,9048	19,8348	26,2404	31,1555	21,0514	22,8181	27,1910	18,7644	22,5685	28,3058	17,2552	26,4267	31,9726	21,0010
113	Sirumalai RF	Glochidion malabaricum Bedd.	Euphorbiaceae	Trees	Evergreen	10,2269	77,9813	1201	1,6705	1,6010	Mesophyll	1	845,5598	450,0679	1487,2692	269,9480	71,4088	686,7391	407,9080	120,7975	932,3942	34,2516	-0,0647	202,0380	150,9160	21,5178	396,9745	24,8141	29,9048	19,8348	26,2404	31,1555	21,0514	22,8181	27,1910	18,7644	22,5685	28,3058	17,2552	26,4267	31,9726	21,0010
114	Sirumalai RF_2	Memecylon talbotianum Brandis	Melastomataceae	Trees	Evergreen	10,2249	77,9822	1207	1,5530	1,4716	Microphyll	0,5	845,9862	450,0102	1487,5577	270,1416	71,4872	686,8494	407,8788	120,7690	931,7425	34,1935	-0,0647	201,9497	150,9148	21,5053	397,0700	24,8359	29,9284	19,8558	26,2651	31,1841	21,0741	22,8377	27,2115	18,7837	22,5882	28,3208	17,2764	26,4485	31,9959	21,0215
115	Sirumalai RF_2	Prunus ceylanica (Wight) Miq.	Rosaceae	Trees	Evergreen	10,2249	77,9822	1207	2,0110	1,9347	Mesophyll	1	845,9862	450,0102	1487,5577	270,1416	71,4872	686,8494	407,8788	120,7690	931,7425	34,1935	-0,0647	201,9497	150,9148	21,5053	397,0700	24,8359	29,9284	19,8558	26,2651	31,1841	21,0741	22,8377	27,2115	18,7837	22,5882	28,3208	17,2764	26,4485	31,9959	21,0215
116	Sirumalai RF_3 (Agasthiyarpuram)	Ficus drupacea Thunb.	Moraceae	Trees	Evergreen	10,2198	77,9810	1288	2,0812	2,0299	Mesophyll	1	846,6438	449,9813	1487,8614	270,3395	71,5689	686,8836	407,7058	120,7688	929,7565	34,0750	-0,0647	201,7686	151,1081	21,5725	398,0015	24,8395	29,9326	19,8604	26,2712	31,1938	21,0815	22,8402	27,2139	18,7866	22,5911	28,3175	17,2830	26,4500	31,9969	21,0227
117	Sirumalai RF_3 (Agasthiyarpuram)	Symplocos cochinchinensis (Lour.) Moore	Symplocaceae	Trees	Evergreen	10,2198	77,9810	1288	1,5571	1,4774	Mesophyll	1	846,6438	449,9813	1487,8614	270,3395	71,5689	686,8836	407,7058	120,7688	929,7565	34,0750	-0,0647	201,7686	151,1081	21,5725	398,0015	24,8395	29,9326	19,8604	26,2712	31,1938	21,0815	22,8402	27,2139	18,7866	22,5911	28,3175	17,2830	26,4500	31,9969	21,0227
118	Poolankurichi (Pudukottai)	Hugonia mystax L.	Linaceae	Climbing Shrub	Evergreen	10,2810	78,5808	194	0,9979	0,8727	Mesophyll	1	896,7481	429,3585	1540,0506	338,3226	90,1100	719,6434	366,8562	103,5107	718,4421	46,1170	-0,0647	226,1075	129,9342	6,5089	345,3945	28,5042	33,1682	23,8548	30,0165	34,8933	25,2732	26,4579	30,3010	22,5318	26,0147	30,8717	20,9830	30,2275	35,3585	25,2007
119	Poolankurichi (Pudukottai)	Atalantia monophylla (L.) DC.	Rutaceae	Trees	Evergreen	10,2810	78,5808	194	0,9580	0,9043	Microphyll	0,5	896,7481	429,3585	1540,0506	338,3226	90,1100	719,6434	366,8562	103,5107	718,4421	46,1170	-0,0647	226,1075	129,9342	6,5089	345,3945	28,5042	33,1682	23,8548	30,0165	34,8933	25,2732	26,4579	30,3010	22,5318	26,0147	30,8717	20,9830	30,2275	35,3585	25,2007
120	Poolankurichi (Pudukottai)	Helicteres isora L.	Malvaceae	Shrub	Deciduous	10,2810	78,5808	194	1,7984	1,7216	Mesophyll	1	896,7481	429,3585	1540,0506	338,3226	90,1100	719,6434	366,8562	103,5107	718,4421	46,1170	-0,0647	226,1075	129,9342	6,5089	345,3945	28,5042	33,1682	23,8548	30,0165	34,8933	25,2732	26,4579	30,3010	22,5318	26,0147	30,8717	20,9830	30,2275	35,3585	25,2007
121	Poolankurichi (Pudukottai)	Holoptelea integrifolia (Roxb.) Planch.	Ulmaceae	Trees	Deciduous	10,2810	78,5808	194	1,5918	1,5338	Microphyll	0,33	896,7481	429,3585	1540,0506	338,3226	90,1100	719,6434	366,8562	103,5107	718,4421	46,1170	-0,0647	226,1075	129,9342	6,5089	345,3945	28,5042	33,1682	23,8548	30,0165	34,8933	25,2732	26,4579	30,3010	22,5318	26,0147	30,8717	20,9830	30,2275	35,3585	25,2007
122	Poolankurichi (Pudukottai)	Wrightia tinctoria (Roxb.) R. Br.	Apocynaceae	Trees	Deciduous	10,2810	78,5808	194	1,6859	1,5903	Mesophyll	1	896,7481	429,3585	1540,0506	338,3226	90,1100	719,6434	366,8562	103,5107	718,4421	46,1170	-0,0647	226,1075	129,9342	6,5089	345,3945	28,5042	33,1682	23,8548	30,0165	34,8933	25,2732	26,4579	30,3010	22,5318	26,0147	30,8717	20,9830	30,2275	35,3585	25,2007
123	Poolankurichi (Pudukottai)	Strychnos nux-vomica L.	Loganiaceae	Trees	Deciduous	10,2810	78,5808	194	1,7052	1,6701	Mesophyll	1	896,7481	429,3585	1540,0506	338,3226	90,1100	719,6434	366,8562	103,5107	718,4421	46,1170	-0,0647	226,1075	129,9342	6,5089	345,3945	28,5042	33,1682	23,8548	30,0165	34,8933	25,2732	26,4579	30,3010	22,5318	26,0147	30,8717	20,9830	30,2275	35,3585	25,2007
124	Poolankurichi (Pudukottai)	Ixora pavetta Andr.	Rubiaceae	Trees	Evergreen	10,2810	78,5808	194	1,4998	1,4211	Mesophyll	1	896,7481	429,3585	1540,0506	338,3226	90,1100	719,6434	366,8562	103,5107	718,4421	46,1170	-0,0647	226,1075	129,9342	6,5089	345,3945	28,5042	33,1682	23,8548	30,0165	34,8933	25,2732	26,4579	30,3010	22,5318	26,0147	30,8717	20,9830	30,2275	35,3585	25,2007
125	Poolankurichi (Pudukottai)	Ehretia ovalifolia Wight	Boraginaceae	Trees	Deciduous	10,2810	78,5808	194	1,4198	1,3544	Mesophyll	1	896,7481	429,3585	1540,0506	338,3226	90,1100	719,6434	366,8562	103,5107	718,4421	46,1170	-0,0647	226,1075	129,9342	6,5089	345,3945	28,5042	33,1682	23,8548	30,0165	34,8933	25,2732	26,4579	30,3010	22,5318	26,0147	30,8717	20,9830	30,2275	35,3585	25,2007
126	Poolankurichi (Pudukottai)	Drypetes sepiaria (Wight and Arn.) Pax and Hoffm.	Euphorbiaceae	Trees	Evergreen	10,2810	78,5808	194	0,9942	0,9532	Microphyll	0,5	896,7481	429,3585	1540,0506	338,3226	90,1100	719,6434	366,8562	103,5107	718,4421	46,1170	-0,0647	226,1075	129,9342	6,5089	345,3945	28,5042	33,1682	23,8548	30,0165	34,8933	25,2732	26,4579	30,3010	22,5318	26,0147	30,8717	20,9830	30,2275	35,3585	25,2007
127	Poolankurichi (Pudukottai)	Ficus mollis Vahl.	Moraceae	Trees	Deciduous	10,2810	78,5808	194	1,5711	1,5171	Microphyll	0,5	896,7481	429,3585	1540,0506	338,3226	90,1100	719,6434	366,8562	103,5107	718,4421	46,1170	-0,0647	226,1075	129,9342	6,5089	345,3945	28,5042	33,1682	23,8548	30,0165	34,8933	25,2732	26,4579	30,3010	22,5318	26,0147	30,8717	20,9830	30,2275	35,3585	25,2007
128	Poolankurichi (Pudukottai)	Bauhinia racemosa Lam.	Fabaceae	Trees	Deciduous	10,2810	78,5808	194	1,0316	1,0220	Mesophyll	1	896,7481	429,3585	1540,0506	338,3226	90,1100	719,6434	366,8562	103,5107	718,4421	46,1170	-0,0647	226,1075	129,9342	6,5089	345,3945	28,5042	33,1682	23,8548	30,0165	34,8933	25,2732	26,4579	30,3010	22,5318	26,0147	30,8717	20,9830	30,2275	35,3585	25,2007
129	Poolankurichi (Pudukottai)	Diospyros montana Roxb.	Ebenaceae	Trees	Deciduous	10,2810	78,5808	194	1,2639	1,1749	Mesophyll	1	896,7481	429,3585	1540,0506	338,3226	90,1100	719,6434	366,8562	103,5107	718,4421	46,1170	-0,0647	226,1075	129,9342	6,5089	345,3945	28,5042	33,1682	23,8548	30,0165	34,8933	25,2732	26,4579	30,3010	22,5318	26,0147	30,8717	20,9830	30,2275	35,3585	25,2007
130	Poolankurichi (Pudukottai)	Memecylon umbellatum Burm. f.	Melastomataceae	Shrub	Evergreen	10,2810	78,5808	194	1,1388	1,0738	Microphyll	0,5	896,7481	429,3585	1540,0506	338,3226	90,1100	719,6434	366,8562	103,5107	718,4421	46,1170	-0,0647	226,1075	129,9342	6,5089	345,3945	28,5042	33,1682	23,8548	30,0165	34,8933	25,2732	26,4579	30,3010	22,5318	26,0147	30,8717	20,9830	30,2275	35,3585	25,2007
131	Poolankurichi (Pudukottai)	Erythroxylum monogynum Roxb.	Erythroxylaceae	Trees	Evergreen	10,2810	78,5808	194	0,8451	0,8181	Mesophyll	1	896,7481	429,3585	1540,0506	338,3226	90,1100	719,6434	366,8562	103,5107	718,4421	46,1170	-0,0647	226,1075	129,9342	6,5089	345,3945	28,5042	33,1682	23,8548	30,0165	34,8933	25,2732	26,4579	30,3010	22,5318	26,0147	30,8717	20,9830	30,2275	35,3585	25,2007
132	Kanjathahill (Poolankurichi)(Pudukottai)	Pterospermum reticulatum Wight and Arn.	Malvaceae	Trees	Evergreen	10,2793	78,6067	264	1,5722	1,5132	Mesophyll	1	894,3769	420,3193	1537,7795	337,7732	89,6315	718,5548	367,2380	100,4490	724,6910	45,8835	-0,0647	231,8491	128,6772	6,0759	342,6773	28,5486	33,1864	23,9318	30,0522	34,9187	25,3550	26,5178	30,3403	22,6055	26,0630	30,9051	21,0503	30,2665	35,3522	25,2810
133	Kanjathahill (Poolankurichi)(Pudukottai)	Gardenia resinifera Roth.	Rubiaceae	Trees	Deciduous	10,2793	78,6067	264	1,4362	1,4066	Mesophyll	1	894,3769	420,3193	1537,7795	337,7732	89,6315	718,5548	367,2380	100,4490	724,6910	45,8835	-0,0647	231,8491	128,6772	6,0759	342,6773	28,5486	33,1864	23,9318	30,0522	34,9187	25,3550	26,5178	30,3403	22,6055	26,0630	30,9051	21,0503	30,2665	35,3522	25,2810
134	Kanjathahill (Poolankurichi)(Pudukottai)	Strychnos nux-vomica L.	Loganiaceae	Trees	Deciduous	10,2793	78,6067	264	1,6694	1,6455	Microphyll	0,5	894,3769	420,3193	1537,7795	337,7732	89,6315	718,5548	367,2380	100,4490	724,6910	45,8835	-0,0647	231,8491	128,6772	6,0759	342,6773	28,5486	33,1864	23,9318	30,0522	34,9187	25,3550	26,5178	30,3403	22,6055	26,0630	30,9051	21,0503	30,2665	35,3522	25,2810
135	Kanjathahill (Poolankurichi)(Pudukottai)	Chionanthus zeylanicus L.	Oleaceae	Trees	Evergreen	10,2793	78,6067	264	1,5651	1,5624	Mesophyll	1	894,3769	420,3193	1537,7795	337,7732	89,6315	718,5548	367,2380	100,4490	724,6910	45,8835	-0,0647	231,8491	128,6772	6,0759	342,6773	28,5486	33,1864	23,9318	30,0522	34,9187	25,3550	26,5178	30,3403	22,6055	26,0630	30,9051	21,0503	30,2665	35,3522	25,2810
136	Ariyursolai (Kollihills)	Atseodaphne semecarpifolia Nees	Lauraceae	Trees	Evergreen	11,3207	78,3589	1305	[illegible]	[illegible]	Mesophyll	1	875,3254	461,3639	1482,3863	354,2199	124,7084	724,7066	339,3371	81,6734	730,6650	20,8534	-0,0647	147,9209	159,7244	19,8650	356,4842	28,2167	33,6044	22,8356	29,2656	34,3325	24,1490	25,9937	30,5062	21,4736	26,0046	32,0538	20,0052	30,5177	36,6034	24,3318
137	Ariyursolai (Kollihills)	Maesa indica (Roxb.) DC.	Primulaceae	Trees	Evergreen	11,3207	78,3589	1305	[illegible]	[illegible]	Mesophyll	1	875,3254	461,3639	1482,3863	354,2199	124,7084	724,7066	339,3371	81,6734	730,6650	20,8534	-0,0647	147,9209	159,7244	19,8650	356,4842	28,2167	33,6044	22,8356	29,2656	34,3325	24,1490	25,9937	30,5062	21,4736	26,0046	32,0538	20,0052	30,5177	36,6034	24,3318
138	Ariyursolai (Kollihills)	Symplocos cochinchinensis (Lour.) Moore	Symplocaceae	Trees	Evergreen	11,3207	78,3589	1305	[illegible]	[illegible]	Mesophyll	1	875,3254	461,3639	1482,3863	354,2199	124,7084	724,7066	339,3371	81,6734	730,6650	20,8534	-0,0647	147,9209	159,7244	19,8650	356,4842	28,2167	33,6044	22,8356	29,2656	34,3325	24,1490	25,9937	30,5062	21,4736	26,0046	32,0538	20,0052	30,5177	36,6034	24,3318
139	Ariyursolai (Kollihills)	Litsea oleoides (Meisner) Hook.f.	Lauraceae	Trees	Evergreen	11,3207	78,3589	1305	[illegible]	[illegible]	Mesophyll	1	875,3254	461,3639	1482,3863	354,2199	124,7084	724,7066	339,3371	81,6734	730,6650	20,8534	-0,0647	147,9209	159,7244	19,8650	356,4842	28,2167	33,6044	22,8356	29,2656	34,3325	24,1490	25,9937	30,5062	21,4736	26,0046	32,0538	20,0052	30,5177	36,6034	24,3318
140	Ariyursolai (Kollihills)	Neolitsea cassia (L.) Kosterm.	Lauraceae	Trees	Evergreen	11,3207	78,3589	1305	[illegible]	[illegible]	Mesophyll	1	875,3254	461,3639	1482,3863	354,2199	124,7084	724,7066	339,3371	81,6734	730,6650	20,8534	-0,0647	147,9209	159,7244	19,8650	356,4842	28,2167	33,6044	22,8356	29,2656	34,3325	24,1490	25,9937	30,5062	21,4736	26,0046	32,0538	20,0052	30,5177	36,6034	24,3318
141	Ariyursolai (Kollihills)	Macaranga peltata (Roxb.) Muell.-Arg.	Euphorbiaceae	Trees	Evergreen	11,3207	78,3589	1305	[illegible]	[illegible]	Mesophyll	1	875,3254	461,3639	1482,3863	354,2199	124,7084	724,7066	339,3371	81,6734	730,6650	20,8534	-0,0647	147,9209	159,7244	19,8650	356,4842	28,2167	33,6044	22,8356	29,2656	34,3325	24,1490	25,9937	30,5062	21,4736	26,0046	32,0538	20,0052	30,5177	36,6034	24,3318
142	Ariyursolai (Kollihills)	Phoebe paniculata Nees	Lauraceae	Trees	Evergreen	11,3207	78,3589	1305	[illegible]	[illegible]	Mesophyll	1	875,3254	461,3639	1482,3863	354,2199	124,7084	724,7066	339,3371	81,6734	730,6650	20,8534	-0,0647	147,9209	159,7244	19,8650	356,4842	28,2167	33,6044	22,8356	29,2656	34,3325	24,1490	25,9937	30,5062	21,4736	26,0046	32,0538	20,0052	30,5177	36,6034	24,3318
143	Ariyursolai (Kollihills)	Memecylon umbellatum Burm. f.	Melastomataceae	Shrub	Evergreen	11,3207	78,3589	1305	[illegible]	[illegible]	Microphyll	0,5	875,3254	461,3639	1482,3863	354,2199	124,7084	724,7066	339,3371	81,6734	730,6650	20,8534	-0,0647	147,9209	159,7244	19,8650	356,4842	28,2167	33,6044	22,8356	29,2656	34,3325	24,1490	25,9937	30,5062	21,4736	26,0046	32,0538	20,0052	30,5177	36,6034	24,3318
144	Ariyursolai (Kollihills)	Myristica dactyloides Gaertn.	Myristicaceae	Trees	Evergreen	11,3207	78,3589	1305	[illegible]	[illegible]	Mesophyll	1	875,3254	461,3639	1482,3863	354,2199	124,7084	724,7066	339,3371	81,6734	730,6650	20,8534	-0,0647	147,9209	159,7244	19,8650	356,4842	28,2167	33,6044	22,8356	29,2656	34,3325	24,1490	25,9937	30,5062	21,4736	26,0046	32,0538	20,0052	30,5177	36,6034	24,3318
145	Ariyursolai (Kollihills)	Syzygium cumini (L.) Skeels	Myrtaceae	Trees	Evergreen	11,3207	78,3589	1305	[illegible]	[illegible]	Microphyll	0,5	875,3254	461,3639	1482,3863	354,2199	124,7084	724,7066	339,3371	81,6734	730,6650	20,8534	-0,0647	147,9209	159,7244	19,8650	356,4842	28,2167	33,6044	22,8356	29,2656	34,3325	24,1490	25,9937	30,5062	21,4736	26,0046	32,0538	20,0052	30,5177	36,6034	24,3318
146	Ariyursolai (Kollihills)	Psydrax dicoccos Gaertn.	Rubiaceae	Trees	Evergreen	11,3207	78,3589	1305	[illegible]	[illegible]	Microphyll	0,5	875,3254	461,3639	1482,3863	354,2199	124,7084	724,7066	339,3371	81,6734	730,6650	20,8534	-0,0647	147,9209	159,7244	19,8650	356,4842	28,2167	33,6044	22,8356	29,2656	34,3325	24,1490	25,9937	30,5062	21,4736	26,0046	32,0538	20,0052	30,5177	36,6034	24,3318
147	Ariyursolai (Kollihills)	Mallotus philippensis (Lam.) Muell.-Arg.	Euphorbiaceae	Trees	Evergreen	11,3207	78,3589	1305	[illegible]	[illegible]	Microphyll	0,5	875,3254	461,3639	1482,3863	354,2199	124,7084	724,7066	339,3371	81,6734	730,6650	20,8534	-0,0647	147,9209	159,7244	19,8650	356,4842	28,2167	33,6044	22,8356	29,2656	34,3325	24,1490	25,9937	30,5062	21,4736	26,0046	32,0538	20,0052	30,5177	36,6034	24,3318
148	Ariyursolai (Kollihills)	Celtis philippensis Blanco var. wightii (Planch.) Soep.	Ulmaceae	Trees	Evergreen	11,3207	78,3589	1305	[illegible]	[illegible]	Mesophyll	1	875,3254	461,3639	1482,3863	354,2199	124,7084	724,7066	339,3371	81,6734	730,6650	20,8534	-0,0647	147,9209	159,7244	19,8650	356,4842	28,2167	33,6044	22,8356	29,2656	34,3325	24,1490	25,9937	30,5062	21,4736	26,0046	32,0538	20,0052	30,5177	36,6034	24,3318
149	Ariyursolai (Kollihills)	Pavetta tomentosa Roxb. ex J.E. Smith	Rubiaceae	Trees	Evergreen	11,3207	78,3589	1305	[illegible]	[illegible]	Mesophyll	1	875,3254	461,3639	1482,3863	354,2199	124,7084	724,7066	339,3371	81,6734	730,6650	20,8534	-0,0647	147,9209	159,7244	19,8650	356,4842	28,2167	33,6044	22,8356	29,2656	34,3325	24,1490	25,9937	30,5062	21,4736	26,0046	32,0538	20,0052	30,5177	36,6034	24,3318
150	Ariyursolai (Kollihills)	Ligustrum perrottetii DC.	Oleaceae	Trees	Evergreen	11,3207	78,3589	1305	[illegible]	[illegible]	Mesophyll	1	875,3254	461,3639	1482,3863	354,2199	124,7084	724,7066	339,3371	81,6734	730,6650	20,8534	-0,0647	147,9209	159,7244	19,8650	356,4842	28,2167	33,6044	22,8356	29,2656	34,3325	24,1490	25,9937	30,5062	21,4736	26,0046	32,0538	20,0052	30,5177	36,6034	24,3318
151	Ariyursolai (Kollihills)	Chionanthus ramiflora Roxb.	Oleaceae	Trees	Evergreen	11,3207	78,3589	1305	[illegible]	[illegible]	Mesophyll	1	875,3254	461,3639	1482,3863	354,2199	124,7084	724,7066	339,3371	81,6734	730,6650	20,8534	-0,0647	147,9209	159,7244	19,8650	356,4842	28,2167	33,6044	22,8356	29,2656	34,3325	24,1490	25,9937	30,5062	21,4736	26,0046	32,0538	20,0052	30,5177	36,6034	24,3318
152	Ariyursolai (Kollihills)	Antidesma menasu Miq.	Phyllanthaceae	Trees	Evergreen	11,3198	78,3597	1405	[illegible]	[illegible]	Mesophyll	1	875,0623	460,9820	1482,3240	354,0872	124,5625	724,6517	339,5585	81,7480	731,3773	20,8756	-0,0647	147,9366	159,6444	19,8109	356,3813	28,2176	33,6051	22,8368	29,2680	34,3355	24,1509	25,9941	30,5058	21,4750	26,0042	32,0524	20,0061	30,5180	36,6034	24,3322
153	Ariyursolai (Kollihills)	Mallotus stenanthus Muell.-Arg.	Euphorbiaceae	Trees	Evergreen	11,3198	78,3597	1405	[illegible]	[illegible]	Mesophyll	1	875,0623	460,9820	1482,3240	354,0872	124,5625	724,6517	339,5585	81,7480	731,3773	20,8756	-0,0647	147,9366	159,6444	19,8109	356,3813	28,2176	33,6051	22,8368	29,2680	34,3355	24,1509	25,9941	30,5058	21,4750	26,0042	32,0524	20,0061	30,5180	36,6034	24,3322
154	Ariyursolai (Kollihills)	Dimocarpus longan Lour.	Sapindaceae	Trees	Evergreen	11,3198	78,3597	1405	[illegible]	[illegible]	Microphyll	0,5	875,0623	460,9820	1482,3240	354,0872	124,5625	724,6517	339,5585	81,7480	731,3773	20,8756	-0,0647	147,9366	159,6444	19,8109	356,3813	28,2176	33,6051	22,8368	29,2680	34,3355	24,1509	25,9941	30,5058	21,4750	26,0042	32,0524	20,0061	30,5180	36,6034	24,3322
155	Ariyursolai (Kollihills)	Beilschmiedia wightii (Nees) Benth. ex Hook. f.	Lauraceae	Trees	Evergreen	11,3198	78,3597	1405	[illegible]	[illegible]	Microphyll	0,5	875,0623	460,9820	1482,3240	354,0872	124,5625	724,6517	339,5585	81,7480	731,3773	20,8756	-0,0647	147,9366	159,6444	19,8109	356,3813	28,2176	33,6051	22,8368	29,2680	34,3355	24,1509	25,9941	30,5058	21,4750	26,0042	32,0524	20,0061	30,5180	36,6034	24,3322
156	Ariyursolai (Kollihills)	Ficus virens Ait.	Moraceae	Trees	Evergreen	11,3198	78,3597	1405	[illegible]	[illegible]	Mesophyll	1	875,0623	460,9820	1482,3240	354,0872	124,5625	724,6517	339,5585	81,7480	731,3773	20,8756	-0,0647	147,9366	159,6444	19,8109	356,3813	28,2176	33,6051	22,8368	29,2680	34,3355	24,1509	25,9941	30,5058	21,4750	26,0042	32,0524	20,0061	30,5180	36,6034	24,3322
157	Ariyursolai (Kollihills)	Scolopia crenata (Wight and Arn.) Clos	Salicaceae	Trees	Evergreen	11,3198	78,3597	1405	[illegible]	[illegible]	Mesophyll	1	875,0623	460,9820	1482,3240	354,0872	124,5625	724,6517	339,5585	81,7480	731,3773	20,8756	-0,0647	147,9366	159,6444	19,8109	356,3813	28,2176	33,6051	22,8368	29,2680	34,3355	24,1509	25,9941	30,5058	21,4750	26,0042	32,0524	20,0061	30,5180	36,6034	24,3322
158	Ariyursolai (Kollihills)	[illegible]	[illegible]	[illegible]	[illegible]	11,3198	78,3597	1405	[illegible]	[illegible]	Mesophyll	1	875,0623	460,9820	1482,3240	354,0872	124,5625	724,6517	339,5585	81,7480	731,3773	20,8756	-0,0647	147,9366	159,6444	19,8109	356,3813	28,2176	33,6051	22,8368	29,2680	34,3355	24,1509	25,9941	30,5058	21,4750	26,0042	32,0524	20,0061	30,5180	36,6034	24,3322
159	Ariyursolai (Kollihills)	[illegible]	[illegible]	[illegible]	[illegible]	11,3198	78,3597	1405	[illegible]	[illegible]	Mesophyll	1	875,0623	460,9820	1482,3240	354,0872	124,5625	724,6517	339,5585	81,7480	731,3773	20,8756	-0,0647	147,9366	159,6444	19,8109	356,3813	28,2176	33,6051	22,8368	29,2680	34,3355	24,1509	25,9941	30,5058	21,4750	26,0042	32,0524	20,0061	30,5180	36,6034	24,3322
160	Ariyursolai (Kollihills)	Croton laccifer L.	Euphorbiaceae	Shrub	Evergreen	11,3198	78,3597	1405	[illegible]	[illegible]	Mesophyll	1	875,0623	460,9820	1482,3240	354,0872	124,5625	724,6517	339,5585	81,7480	731,3773	20,8756	-0,0647	147,9366	159,6444	19,8109	356,3813	28,2176	33,6051	22,8368	29,2680	34,3355	24,1509	25,9941	30,5058	21,4750	26,0042	32,0524	20,0061	30,5180	36,6034	24,3322
161	Kollihills	Meliosma simplicifolia (Roxb.) Walp.	Sabiaceae	Trees	Evergreen	11,3207	78,3588	1297	[illegible]	[illegible]	Mesophyll	1	875,1671	461,1965	1482,3223	354,1783	124,6844	724,6860	339,2588	81,6584	730,6514	20,8455	-0,0647	147,8675	159,7183	19,8630	356,4816	28,2160	33,6038	22,8351	29,2651	34,3320	24,1485	25,9932	30,5057	21,4731	26,0039	32,0531	20,0047	30,5168	36,6024	24,3312
162	Kollihills II H.P. 62	Olea glandulifera Wall.	Oleaceae	Trees	Evergreen	11,3213	78,3399	1100	[illegible]	[illegible]	Mesophyll	1	872,1470	458,4658	1468,1445	349,2911	128,1861	721,2488	333,6149	80,2614	720,2993	20,2330	-0,0647	146,3333	160,8442	20,5445	357,4518	28,1823	33,5727	22,7995	29,2129	34,2707	24,1030	25,9697	30,4969	21,4365	25,9888	32,0517	19,9737	30,4840	36,5699	24,3069
163	Kollihills II H.P. 62	Litsea deccanensis Gamble	Lauraceae	Trees	Evergreen	11,3213	78,3399	1100	[illegible]	[illegible]	Mesophyll	1	872,1470	458,4658	1468,1445	349,2911	128,1861	721,2488	333,6149	80,2614	720,2993	20,2330	-0,0647	146,3333	160,8442	20,5445	357,4518	28,1823	33,5727	22,7995	29,2129	34,2707	24,1030	25,9697	30,4969	21,4365	25,9888	32,0517	19,9737	30,4840	36,5699	24,3069
164	Kollihills II H.P. 62	Callicarpa tomentosa (L.) Murr.	Verbenaceae	Trees	Evergreen	11,3213	78,3399	1100	[illegible]	[illegible]	Mesophyll	1	872,1470	458,4658	1468,1445	349,2911	128,1861	721,2488	333,6149	80,2614	720,2993	20,2330	-0,0647	146,3333	160,8442	20,5445	357,4518	28,1823	33,5727	22,7995	29,2129	34,2707	24,1030	25,9697	30,4969	21,4365	25,9888	32,0517	19,9737	30,4840	36,5699	24,3069
165	Kollihills II H.P. 62	Cinnamomum malabatrum (Burm.f.) J.Presl	Lauraceae	Trees	Evergreen	11,3213	78,3399	1100	[illegible]	[illegible]	Mesophyll	1	872,1470	458,4658	1468,1445	349,2911	128,1861	721,2488	333,6149	80,2614	720,2993	20,2330	-0,0647	146,3333	160,8442	20,5445	357,4518	28,1823	33,5727	22,7995	29,2129	34,2707	24,1030	25,9697	30,4969	21,4365	25,9888	32,0517	19,9737	30,4840	36,5699	24,3069
166	Kollihills II H.P. 62	[illegible]	[illegible]	[illegible]	[illegible]	11,3213	78,3399	1100	[illegible]	[illegible]	Mesophyll	1	872,1470	458,4658	1468,1445	349,2911	128,1861	721,2488	333,6149	80,2614	720,2993	20,2330	-0,0647	146,3333	160,8442	20,5445	357,4518	28,1823	33,5727	22,7995	29,2129	34,2707	24,1030	25,9697	30,4969	21,4365	25,9888	32,0517	19,9737	30,4840	36,5699	24,3069
167	Kollihills II H.P. 62	Vernonia arborea Buch.-Ham.	Asteraceae	Trees	Evergreen	11,3213	78,3399	1100	[illegible]	[illegible]	Mesophyll	1	872,1470	458,4658	1468,1445	349,2911	128,1861	721,2488	333,6149	80,2614	720,2993	20,2330	-0,0647	146,3333	160,8442	20,5445	357,4518	28,1823	33,5727	22,7995	29,2129	34,2707	24,1030	25,9697	30,4969	21,4365	25,9888	32,0517	19,9737	30,4840	36,5699	24,3069
168	Kollihills II H.P. 62	Elaeocarpus serratus L.	Elaeocarpaceae	Trees	Evergreen	11,3213	78,3399	1100	[illegible]	[illegible]	Mesophyll	1	872,1470	458,4658	1468,1445	349,2911	128,1861	721,2488	333,6149	80,2614	720,2993	20,2330	-0,0647	146,3333	160,8442	20,5445	357,4518	28,1823	33,5727	22,7995	29,2129	34,2707	24,1030	25,9697	30,4969	21,4365	25,9888	32,0517	19,9737	30,4840	36,5699	24,3069
169	Kollihills III H.P. 32	Hiptage benghalensis (L.) Kurz	Malpighiaceae	Climbing Shrub	Evergreen	11,3247	78,3422	774	[illegible]	[illegible]	Mesophyll	1	873,5556	458,1309	1473,9657	352,9455	129,8032	723,6349	334,5194	81,2820	720,7656	20,3371	-0,0647	144,9132	160,9928	20,6872	357,4789	28,1889	33,5791	22,8053	29,2191	34,2773	24,1089	25,9751	30,5012	21,4423	25,9952	32,0575	19,9797	30,4928	36,5797	24,3126
170	Kollihills III H.P. 32	Tarenna asiatica (L.) Kuntz ex K. Schum.	Rubiaceae	Shrub	Evergreen	11,3247	78,3422	774	[illegible]	[illegible]	Mesophyll	1	873,5556	458,1309	1473,9657	352,9455	129,8032	723,6349	334,5194	81,2820	720,7656	20,3371	-0,0647	144,9132	160,9928	20,6872	357,4789	28,1889	33,5791	22,8053	29,2191	34,2773	24,1089	25,9751	30,5012	21,4423	25,9952	32,0575	19,9797	30,4928	36,5797	24,3126
171	Kollihills III H.P. 32	Bauhinia racemosa Lam.	Fabaceae	Trees	Deciduous	11,3247	78,3422	774	[illegible]	[illegible]	Mesophyll	1	873,5556	458,1309	1473,9657	352,9455	129,8032	723,6349	334,5194	81,2820	720,7656	20,3371	-0,0647	144,9132	160,9928	20,6872	357,4789	28,1889	33,5791	22,8053	29,2191	34,2773	24,1089	25,9751	30,5012	21,4423	25,9952	32,0575	19,9797	30,4928	36,5797	24,3126
172	Kollihills III H.P. 32	Schleichera oleosa (Lour.) Oken	Sapindaceae	Trees	Deciduous	11,3247	78,3422	774	[illegible]	[illegible]	Mesophyll	1	873,5556	458,1309	1473,9657	352,9455	129,8032	723,6349	334,5194	81,2820	720,7656	20,3371	-0,0647	144,9132	160,9928	20,6872	357,4789	28,1889	33,5791	22,8053	29,2191	34,2773	24,1089	25,9751	30,5012	21,4423	25,9952	32,0575	19,9797	30,4928	36,5797	24,3126
173	Kollihills III H.P. 32	Olea glandulifera Wall.	Oleaceae	Trees	Evergreen	11,3247	78,3422	774	[illegible]	[illegible]	Mesophyll	1	873,5556	458,1309	1473,9657	352,9455	129,8032	723,6349	334,5194	81,2820	720,7656	20,3371	-0,0647	144,9132	160,9928	20,6872	357,4789	28,1889	33,5791	22,8053	29,2191	34,2773	24,1089	25,9751	30,5012	21,4423	25,9952	32,0575	19,9797	30,4928	36,5797	24,3126
174	Kollihills III H.P. 32	Diospyros ovalifolia Wight	Ebenaceae	Trees	Evergreen	11,3247	78,3422	774	[illegible]	[illegible]	Microphyll	0,5	873,5556	458,1309	1473,9657	352,9455	129,8032	723,6349	334,5194	81,2820	720,7656	20,3371	-0,0647	144,9132	160,9928	20,6872	357,4789	28,1889	33,5791	22,8053	29,2191	34,2773	24,1089	25,9751	30,5012	21,4423	25,9952	32,0575	19,9797	30,4928	36,5797	24,3126
175	Kollihills III H.P. 32	[illegible]	[illegible]	[illegible]	[illegible]	11,3247	78,3422	774	[illegible]	[illegible]	Microphyll	0,5	873,5556	458,1309	1473,9657	352,9455	129,8032	723,6349	334,5194	81,2820	720,7656	20,3371	-0,0647	144,9132	160,9928	20,6872	357,4789	28,1889	33,5791	22,8053	29,2191	34,2773	24,1089	25,9751	30,5012	21,4423	25,9952	32,0575	19,9797	30,4928	36,5797	24,3126
176	Kollihills III H.P. 32	[illegible]	[illegible]	[illegible]	[illegible]	11,3247	78,3422	774	[illegible]	[illegible]	Microphyll	0,5	873,5556	458,1309	1473,9657	352,9455	129,8032	723,6349	334,5194	81,2820	720,7656	20,3371	-0,0647	144,9132	160,9928	20,6872	357,4789	28,1889	33,5791	22,8053	29,2191	34,2773	24,1089	25,9751	30,5012	21,4423	25,9952	32,0575	19,9797	30,4928	36,5797	24,3126
177	Vaniyar RF (Yercaud)	Bischofia javanica Blume	Phyllanthaceae	Trees	Evergreen	11,8171	78,2725	1186	[illegible]	[illegible]	Mesophyll	1	1028,6408	579,9400	1563,2916	403,1744	149,7004	753,7189	386,4952	63,2055	883,2159	26,9020	-0,0647	224,2092	182,1016	32,1692	445,5391	27,9071	33,4782	22,3403	28,7709	33,8393	23,7149	25,6705	30,4146	20,9270	25,7837	32,2303	19,3366	30,4086	36,8037	23,9230
178	Vaniyar RF (Yercaud)	Mallotus philippensis (Lam.) Muell.-Arg.	Euphorbiaceae	Trees	Evergreen	11,8171	78,2725	1186	[illegible]	[illegible]	Microphyll	0,5	1028,6408	579,9400	1563,2916	403,1744	149,7004	753,7189	386,4952	63,2055	883,2159	26,9020	-0,0647	224,2092	182,1016	32,1692	445,5391	27,9071	33,4782	22,3403	28,7709	33,8393	23,7149	25,6705	30,4146	20,9270	25,7837	32,2303	19,3366	30,4086	36,8037	23,9230
179	Vaniyar RF (Yercaud)	Holoptelea integrifolia (Roxb.) Planch.	Ulmaceae	Trees	Deciduous	11,8171	78,2725	1186	[illegible]	[illegible]	Microphyll	0,33	1028,6408	579,9400	1563,2916	403,1744	149,7004	753,7189	386,4952	63,2055	883,2159	26,9020	-0,0647	224,2092	182,1016	32,1692	445,5391	27,9071	33,4782	22,3403	28,7709	33,8393	23,7149	25,6705	30,4146	20,9270	25,7837	32,2303	19,3366	30,4086	36,8037	23,9230
180	Vaniyar RF (Yercaud)	Ficus racemosa L.	Moraceae	Trees	Evergreen	11,8171	78,2725	1186	[illegible]	[illegible]	Mesophyll	1	1028,6408	579,9400	1563,2916	403,1744	149,7004	753,7189	386,4952	63,2055	883,2159	26,9020	-0,0647	224,2092	182,1016	32,1692	445,5391	27,9071	33,4782	22,3403	28,7709	33,8393	23,7149	25,6705	30,4146	20,9270	25,7837	32,2303	19,3366	30,4086	36,8037	23,9230
181	Vaniyar RF (Yercaud)	[illegible]	[illegible]	[illegible]	[illegible]	11,8171	78,2725	1186	[illegible]	[illegible]	Mesophyll	1	1028,6408	579,9400	1563,2916	403,1744	149,7004	753,7189	386,4952	63,2055	883,2159	26,9020	-0,0647	224,2092	182,1016	32,1692	445,5391	27,9071	33,4782	22,3403	28,7709	33,8393	23,7149	25,6705	30,4146	20,9270	25,7837	32,2303	19,3366	30,4086	36,8037	23,9230
182	Vaniyar RF (Yercaud)	Mangifera indica L.	Anacardiaceae	Trees	Evergreen	11,8171	78,2725	1186	[illegible]	[illegible]	Mesophyll	1	1028,6408	579,9400	1563,2916	403,1744	149,7004	753,7189	386,4952	63,2055	883,2159	26,9020	-0,0647	224,2092	182,1016	32,1692	445,5391	27,9071	33,4782	22,3403	28,7709	33,8393	23,7149	25,6705	30,4146	20,9270	25,7837	32,2303	19,3366	30,4086	36,8037	23,9230
183	Vaniyar RF (Yercaud)	Premna tomentosa Willd.	Verbenaceae	Trees	Deciduous	11,8171	78,2725	1186	[illegible]	[illegible]	Mesophyll	1	1028,6408	579,9400	1563,2916	403,1744	149,7004	753,7189	386,4952	63,2055	883,2159	26,9020	-0,0647	224,2092	182,1016	32,1692	445,5391	27,9071	33,4782	22,3403	28,7709	33,8393	23,7149	25,6705	30,4146	20,9270	25,7837	32,2303	19,3366	30,4086	36,8037	23,9230
184	Vaniyar RF (Yercaud)	[illegible]	[illegible]	[illegible]	[illegible]	11,8171	78,2725	1186	[illegible]	[illegible]	Mesophyll	1	1028,6408	579,9400	1563,2916	403,1744	149,7004	753,7189	386,4952	63,2055	883,2159	26,9020	-0,0647	224,2092	182,1016	32,1692	445,5391	27,9071	33,4782	22,3403	28,7709	33,8393	23,7149	25,6705	30,4146	20,9270	25,7837	32,2303	19,3366	30,4086	36,8037	23,9230
185	Vaniyar RF (Yercaud)	Syzygium cumini (L.) Skeels	Myrtaceae	Trees	Evergreen	11,8171	78,2725	1186	[illegible]	[illegible]	Mesophyll	1	1028,6408	579,9400	1563,2916	403,1744	149,7004	753,7189	386,4952	63,2055	883,2159	26,9020	-0,0647	224,2092	182,1016	32,1692	445,5391	27,9071	33,4782	22,3403	28,7709	33,8393	23,7149	25,6705	30,4146	20,9270	25,7837	32,2303	19,3366	30,4086	36,8037	23,9230
186	Vaniyar RF (Yercaud)	[illegible]	[illegible]	[illegible]	[illegible]	11,8171	78,2725	1186	[illegible]	[illegible]	Microphyll	0,5	1028,6408	579,9400	1563,2916	403,1744	149,7004	753,7189	386,4952	63,2055	883,2159	26,9020	-0,0647	224,2092	182,1016	32,1692	445,5391	27,9071	33,4782	22,3403	28,7709	33,8393	23,7149	25,6705	30,4146	20,9270	25,7837	32,2303	19,3366	30,4086	36,8037	23,9230
187	Vaniyar RF (Yercaud)	[illegible]	[illegible]	[illegible]	[illegible]	11,8171	78,2725	1186	[illegible]	[illegible]	Mesophyll	1	1028,6408	579,9400	1563,2916	403,1744	149,7004	753,7189	386,4952	63,2055	883,2159	26,9020	-0,0647	224,2092	182,1016	32,1692	445,5391	27,9071	33,4782	22,3403	28,7709	33,8393	23,7149	25,6705	30,4146	20,9270	25,7837	32,2303	19,3366	30,4086	36,8037	23,9230
188	Vaniyar RF (Yercaud)	Chionanthus mala-elengi (Dennst.) P.S. Green	Oleaceae	Trees	Evergreen	11,8171	78,2725	1186	[illegible]	[illegible]	Mesophyll	1	1028,6408	579,9400	1563,2916	403,1744	149,7004	753,7189	386,4952	63,2055	883,2159	26,9020	-0,0647	224,2092	182,1016	32,1692	445,5391	27,9071	33,4782	22,3403	28,7709	33,8393	23,7149	25,6705	30,4146	20,9270	25,7837	32,2303	19,3366	30,4086	36,8037	23,9230
189	Vaniyar RF (Yercaud)	Strychnos nux-vomica L.	Loganiaceae	Trees	Deciduous	11,8171	78,2725	1186	[illegible]	[illegible]	Microphyll	0,5	1028,6408	579,9400	1563,2916	403,1744	149,7004	753,7189	386,4952	63,2055	883,2159	26,9020	-0,0647	224,2092	182,1016	32,1692	445,5391	27,9071	33,4782	22,3403	28,7709	33,8393	23,7149	25,6705	30,4146	20,9270	25,7837	32,2303	19,3366	30,4086	36,8037	23,9230
190	Vaniyar RF (Yercaud)	[illegible]	[illegible]	[illegible]	[illegible]	11,8171	78,2725	1186	[illegible]	[illegible]	Microphyll	0,5	1028,6408	579,9400	1563,2916	403,1744	149,7004	753,7189	386,4952	63,2055	883,2159	26,9020	-0,0647	224,2092	182,1016	32,1692	445,5391	27,9071	33,4782	22,3403	28,7709	33,8393	23,7149	25,6705	30,4146	20,9270	25,7837	32,2303	19,3366	30,4086	36,8037	23,9230
191	Vaniyar RF (Yercaud)	[illegible]	[illegible]	[illegible]	[illegible]	11,8171	78,2725	1186	[illegible]	[illegible]	Mesophyll	1	1028,6408	579,9400	1563,2916	403,1744	149,7004	753,7189	386,4952	63,2055	883,2159	26,9020	-0,0647	224,2092	182,1016	32,1692	445,5391	27,9071	33,4782	22,3403	28,7709	33,8393	23,7149	25,6705	30,4146	20,9270	25,7837	32,2303	19,3366	30,4086	36,8037	23,9230
192	Shervarayan (Yercaud)	Psydrax dicoccos Gaertn.	Rubiaceae	Trees	Evergreen	11,8171	78,2223	1576	[illegible]	[illegible]	Microphyll	0,5	1036,5962	589,2707	1551,0155	405,0777	153,4827	752,2383	387,2463	64,5887	898,3718	26,1799	-0,0647	198,8320	186,1380	34,4407	459,9277	27,9284	33,4929	22,3835	28,7501	33,7894	23,7131	25,7097	30,4896	20,9583	25,8520	32,3961	19,4116	30,4345	36,7802	24,0169
193	Shervarayan (Yercaud)	Wendlandia thyrsoidea (Schult.) Steud.	Rubiaceae	Trees	Evergreen	11,8171	78,2223	1576	[illegible]	[illegible]	Microphyll	0,5	1036,5962	589,2707	1551,0155	405,0777	153,4827	752,2383	387,2463	64,5887	898,3718	26,1799	-0,0647	198,8320	186,1380	34,4407	459,9277	27,9284	33,4929	22,3835	28,7501	33,7894	23,7131	25,7097	30,4896	20,9583	25,8520	32,3961	19,4116	30,4345	36,7802	24,0169
194	Shervarayan (Yercaud)	Vaccinium neilgherrense Wight	Ericaceae	Trees	Evergreen	11,8171	78,2223	1576	[illegible]	[illegible]	Mesophyll	1	1036,5962	589,2707	1551,0155	405,0777	153,4827	752,2383	387,2463	64,5887	898,3718	26,1799	-0,0647	198,8320	186,1380	34,4407	459,9277	27,9284	33,4929	22,3835	28,7501	33,7894	23,7131	25,7097	30,4896	20,9583	25,8520	32,3961	19,4116	30,4345	36,7802	24,0169
195	Shervarayan (Yercaud)	Ligustrum perrottetii DC.	Oleaceae	Trees	Evergreen	11,8171	78,2223	1576	[illegible]	[illegible]	Mesophyll	1	1036,5962	589,2707	1551,0155	405,0777	153,4827	752,2383	387,2463	64,5887	898,3718	26,1799	-0,0647	198,8320	186,1380	34,4407	459,9277	27,9284	33,4929	22,3835	28,7501	33,7894	23,7131	25,7097	30,4896	20,9583	25,8520	32,3961	19,4116	30,4345	36,7802	24,0169

SUPPORTING INFORMATION. Leaf classes, foliar phenology and life forms of selected woody species from the tropical forests of central and southern Eastern Ghats, India. *Check List* 8(6).

Field No.	Location	Species Name	Family	Habit	Phenology	Lat	Lon	Alt	Leaf Fresh area (Log10)	Leaf Dry area (Log10)	Leaf_class	Leaf size score	amean	amin	amax	jsmean	jsmin	jsmax	odmean	odmin	odmax	jfmean	jfmin	jfmax	mmmean	mmmin	mmmax	AmeanTemp	AmaxTemp	AminTemp	JSmeanTemp	JSmaxTemp	JSminTemp	ODmeanTemp	ODmaxTemp	ODminTemp	JFmeanTemp	JFmaxTemp	JFminTemp	MMmeanTemp	MMmaxTemp	MMminTemp
248	Thirthagiri RF (Karumandurai)	Mimusops elengi L.	Sapotaceae	Trees	Evergreen	11,8527	78,6180	759	1,6643	1,6188	Mesophyll	1	928,5375	400,7274	1585,1426	387,6736	120,9396	746,9310	369,5391	57,1324	824,3499	31,9298	-0,0647	305,7739	143,4549	15,2412	365,4986	28,1414	33,6070	22,5103	29,3728	34,5134	24,1173	25,7917	30,2292	21,1837	25,6362	31,7436	19,4219	30,5181	36,8986	23,7529
249	Thirthagiri RF (Karumandurai)	Atalantia monophylla (L.) DC.	Rutaceae	Trees	Evergreen	11,8527	78,6180	759	1,3883	1,3321	Notophyll	0,5	928,5375	400,7274	1585,1426	387,6736	120,9396	746,9310	369,5391	57,1324	824,3499	31,9298	-0,0647	305,7739	143,4549	15,2412	365,4986	28,1414	33,6070	22,5103	29,3728	34,5134	24,1173	25,7917	30,2292	21,1837	25,6362	31,7436	19,4219	30,5181	36,8986	23,7529
250	Thirthagiri RF (Karumandurai)	Drypetes sepiaria (Wight and Arn.) Pax and Hoffm.	Euphorbiaceae	Trees	Evergreen	11,8527	78,6180	759	1,2296	1,2059	Microphyll	0,5	928,5375	400,7274	1585,1426	387,6736	120,9396	746,9310	369,5391	57,1324	824,3499	31,9298	-0,0647	305,7739	143,4549	15,2412	365,4986	28,1414	33,6070	22,5103	29,3728	34,5134	24,1173	25,7917	30,2292	21,1837	25,6362	31,7436	19,4219	30,5181	36,8986	23,7529
251	Thirthagiri RF (Karumandurai)	Manilkara hexandra (Roxb.) Dubard	Sapotaceae	Trees	Evergreen	11,8528	78,6146	697	1,3747	1,3345	Notophyll	1	928,9530	402,4536	1584,9388	387,8387	121,2108	747,0011	369,3684	57,1839	823,9467	31,8545	-0,0647	305,4965	143,7644	15,3485	365,6834	28,1364	33,6063	22,5046	29,3643	34,5067	24,1107	25,7877	30,2312	21,1774	25,6346	31,7501	19,4151	30,5144	36,8982	23,7497
252	Thirthagiri RF (Karumandurai)	Drypetes sepiaria (Wight and Arn.) Pax and Hoffm.	Euphorbiaceae	Trees	Evergreen	11,8528	78,6146	697	1,0986	1,0656	Microphyll	0,5	928,9530	402,4536	1584,9388	387,8387	121,2108	747,0011	369,3684	57,1839	823,9467	31,8545	-0,0647	305,4965	143,7644	15,3485	365,6834	28,1364	33,6063	22,5046	29,3643	34,5067	24,1107	25,7877	30,2312	21,1774	25,6346	31,7501	19,4151	30,5144	36,8982	23,7497
253	Thirthagiri RF (Karumandurai)	Maytenus emarginata (Willd.) Ding	Celastraceae	Shrub	Deciduous	11,8528	78,6146	697	1,2458	1,1658	Microphyll	1	928,9530	402,4536	1584,9388	387,8387	121,2108	747,0011	369,3684	57,1839	823,9467	31,8545	-0,0647	305,4965	143,7644	15,3485	365,6834	28,1364	33,6063	22,5046	29,3643	34,5067	24,1107	25,7877	30,2312	21,1774	25,6346	31,7501	19,4151	30,5144	36,8982	23,7497
254	Thirthagiri RF (Karumandurai)	Ficus microcarpa L. f.	Moraceae	Trees	Deciduous	11,8528	78,6146	697	1,5640	1,4798	Notophyll	1	928,9530	402,4536	1584,9388	387,8387	121,2108	747,0011	369,3684	57,1839	823,9467	31,8545	-0,0647	305,4965	143,7644	15,3485	365,6834	28,1364	33,6063	22,5046	29,3643	34,5067	24,1107	25,7877	30,2312	21,1774	25,6346	31,7501	19,4151	30,5144	36,8982	23,7497
255	Thirthagiri RF (Karumandurai)	Strychnos potatorum L. f.	Loganiaceae	Trees	Deciduous	11,8547	78,6123	632	1,3541	1,3200	Notophyll	1	928,9828	403,1577	1584,8942	387,9391	121,3445	747,0554	368,9847	57,1053	823,4604	31,8189	-0,0647	305,8716	143,9342	15,4092	365,7600	28,1295	33,6041	22,4962	29,3560	34,5005	24,1034	25,7813	30,2303	21,1683	25,6293	31,7521	19,4038	30,5079	36,8964	23,7423
256	Thirthagiri RF (Karumandurai)	Hardwickia binata Roxb.	Fabaceae	Trees	Deciduous	11,8528	78,6146	697	1,2766	1,2379	Microphyll	1	928,9530	402,4536	1584,9388	387,8387	121,2108	747,0011	369,3684	57,1839	823,9467	31,8545	-0,0647	305,4965	143,7644	15,3485	365,6834	28,1364	33,6063	22,5046	29,3643	34,5067	24,1107	25,7877	30,2312	21,1774	25,6346	31,7501	19,4151	30,5144	36,8982	23,7497
257	Thirthagiri RF (Karumandurai)	Terminalia arjuna (Roxb. ex DC.) Wt. and Arn.	Combretaceae	Trees	Deciduous	11,8549	78,6116	627	1,8260	1,7230	Mesophyll	1	929,0247	403,4130	1584,8699	387,9684	121,3879	747,0696	368,9143	57,0986	823,3549	31,8070	-0,0647	305,8995	143,9863	15,4275	365,7888	28,1281	33,6037	22,4945	29,3540	34,4990	24,1018	25,7801	30,2303	21,1665	25,6284	31,7529	19,4016	30,5067	36,8961	23,7410
258	Thirthagiri RF (Karumandurai)	Syzygium cumini (L.) Skeels.	Myrtaceae	Trees	Evergreen	11,8549	78,6116	627	1,7330	1,6541	Mesophyll	0,5	929,0247	403,4130	1584,8699	387,9684	121,3879	747,0696	368,9143	57,0986	823,3549	31,8070	-0,0647	305,8995	143,9863	15,4275	365,7888	28,1281	33,6037	22,4945	29,3540	34,4990	24,1018	25,7801	30,2303	21,1665	25,6284	31,7529	19,4016	30,5067	36,8961	23,7410
259	Sitling stream side	Mangifera indica L.	Anacardiaceae	Trees	Evergreen	11,8558	78,6016	473	1,6533	1,6279	Mesophyll	1	930,4289	408,5223	1586,3838	390,8256	126,1206	748,2752	367,5102	56,1824	819,4278	31,6116	-0,0647	302,8420	144,8715	16,6247	366,3713	28,1127	33,6009	22,4769	29,3285	34,4787	24,0819	25,7676	30,2351	21,1470	25,6227	31,7708	19,3806	30,4950	36,8944	23,7308
260	Sitling stream side	Ficus racemosa L.	Moraceae	Trees	Deciduous	11,8558	78,6016	473	1,4264	1,3463	Notophyll	1	930,4289	408,5223	1586,3838	390,8256	126,1206	748,2752	367,5102	56,1824	819,4278	31,6116	-0,0647	302,8420	144,8715	16,6247	366,3713	28,1127	33,6009	22,4769	29,3285	34,4787	24,0819	25,7676	30,2351	21,1470	25,6227	31,7708	19,3806	30,4950	36,8944	23,7308
261	Sitling stream side	Strychnos nux-vomica L.	Loganiaceae	Trees	Deciduous	11,8558	78,6016	473	1,7004	1,6841	Mesophyll	1	930,4289	408,5223	1586,3838	390,8256	126,1206	748,2752	367,5102	56,1824	819,4278	31,6116	-0,0647	302,8420	144,8715	16,6247	366,3713	28,1127	33,6009	22,4769	29,3285	34,4787	24,0819	25,7676	30,2351	21,1470	25,6227	31,7708	19,3806	30,4950	36,8944	23,7308
262	Sitling stream side	Drypetes sepiaria (Wight and Arn.) Pax and Hoffm.	Euphorbiaceae	Trees	Evergreen	11,8558	78,6016	473	1,3451	1,3129	Notophyll	0,5	930,4289	408,5223	1586,3838	390,8256	126,1206	748,2752	367,5102	56,1824	819,4278	31,6116	-0,0647	302,8420	144,8715	16,6247	366,3713	28,1127	33,6009	22,4769	29,3285	34,4787	24,0819	25,7676	30,2351	21,1470	25,6227	31,7708	19,3806	30,4950	36,8944	23,7308
263	Vellimalai (Shola forest)	Nothopegia beddomei Gamble	Anacardiaceae	Trees	Evergreen	11,8031	78,7153	677	1,4289	1,3775	Notophyll	1	924,0949	363,4221	1587,3957	381,0719	110,1270	744,2750	380,8651	56,9268	842,3813	33,5013	-0,0647	295,8855	135,5056	12,1381	364,2990	28,3425	33,4441	22,7733	29,6416	34,5042	24,3523	25,9691	30,0183	21,4708	25,7572	31,3891	19,7794	30,6984	36,8248	23,9664
264	Vellimalai (Shola forest)	Tarenna asiatica (L.) Kuntz ex K. Schum.	Rubiaceae	Shrub	Evergreen	11,8031	78,7153	677	1,8782	1,8131	Mesophyll	1	924,0949	363,4221	1587,3957	381,0719	110,1270	744,2750	380,8651	56,9268	842,3813	33,5013	-0,0647	295,8855	135,5056	12,1381	364,2990	28,3425	33,4441	22,7733	29,6416	34,5042	24,3523	25,9691	30,0183	21,4708	25,7572	31,3891	19,7794	30,6984	36,8248	23,9664
265	Vellimalai (Shola forest)	Litsea deccanensis Gamble	Lauraceae	Trees	Evergreen	11,8031	78,7153	677	2,1786	2,1639	Mesophyll	1	924,0949	363,4221	1587,3957	381,0719	110,1270	744,2750	380,8651	56,9268	842,3813	33,5013	-0,0647	295,8855	135,5056	12,1381	364,2990	28,3425	33,4441	22,7733	29,6416	34,5042	24,3523	25,9691	30,0183	21,4708	25,7572	31,3891	19,7794	30,6984	36,8248	23,9664
266	Vellimalai (Shola forest)	Diospyros ovalifolia Wight	Ebenaceae	Trees	Evergreen	11,8031	78,7153	677	1,6483	1,6007	Notophyll	0,5	924,0949	363,4221	1587,3957	381,0719	110,1270	744,2750	380,8651	56,9268	842,3813	33,5013	-0,0647	295,8855	135,5056	12,1381	364,2990	28,3425	33,4441	22,7733	29,6416	34,5042	24,3523	25,9691	30,0183	21,4708	25,7572	31,3891	19,7794	30,6984	36,8248	23,9664
267	Vellimalai (Shola forest)	Miliusa tomentosa (Roxb.) J. Sinclair	Annonaceae	Trees	Evergreen	11,8031	78,7153	677	1,2112	1,1790	Microphyll	1	924,0949	363,4221	1587,3957	381,0719	110,1270	744,2750	380,8651	56,9268	842,3813	33,5013	-0,0647	295,8855	135,5056	12,1381	364,2990	28,3425	33,4441	22,7733	29,6416	34,5042	24,3523	25,9691	30,0183	21,4708	25,7572	31,3891	19,7794	30,6984	36,8248	23,9664
268	Vellimalai (Shola forest)	Putranjiva roxburghii Wall.	Euphorbiaceae	Trees	Evergreen	11,8031	78,7153	677	1,2680	1,2215	Microphyll	0,5	924,0949	363,4221	1587,3957	381,0719	110,1270	744,2750	380,8651	56,9268	842,3813	33,5013	-0,0647	295,8855	135,5056	12,1381	364,2990	28,3425	33,4441	22,7733	29,6416	34,5042	24,3523	25,9691	30,0183	21,4708	25,7572	31,3891	19,7794	30,6984	36,8248	23,9664
269	Vellimalai (Shola forest)	Drypetes sepiaria (Wight and Arn.) Pax and Hoffm.	Euphorbiaceae	Trees	Evergreen	11,8031	78,7153	677	1,5183	1,4793	Notophyll	0,5	924,0949	363,4221	1587,3957	381,0719	110,1270	744,2750	380,8651	56,9268	842,3813	33,5013	-0,0647	295,8855	135,5056	12,1381	364,2990	28,3425	33,4441	22,7733	29,6416	34,5042	24,3523	25,9691	30,0183	21,4708	25,7572	31,3891	19,7794	30,6984	36,8248	23,9664
270	Vellimalai (Shola forest)	Mallotus philippensis (Lam.) Muell.-Arg.	Euphorbiaceae	Trees	Evergreen	11,8031	78,7153	677	1,4796	1,4514	Notophyll	0,5	924,0949	363,4221	1587,3957	381,0719	110,1270	744,2750	380,8651	56,9268	842,3813	33,5013	-0,0647	295,8855	135,5056	12,1381	364,2990	28,3425	33,4441	22,7733	29,6416	34,5042	24,3523	25,9691	30,0183	21,4708	25,7572	31,3891	19,7794	30,6984	36,8248	23,9664
271	Vellimalai (Shola forest)	Psychotria nigra (Gaertn.) Alston	Rubiaceae	Shrub	Evergreen	11,8031	78,7153	677	1,8801	1,8042	Mesophyll	1	924,0949	363,4221	1587,3957	381,0719	110,1270	744,2750	380,8651	56,9268	842,3813	33,5013	-0,0647	295,8855	135,5056	12,1381	364,2990	28,3425	33,4441	22,7733	29,6416	34,5042	24,3523	25,9691	30,0183	21,4708	25,7572	31,3891	19,7794	30,6984	36,8248	23,9664
272	Vellimalai (Shola forest)	Alangium salvifolium (L. f.) Wang.	Cornaceae	Trees	Deciduous	11,8031	78,7153	677	1,5399	1,5110	Notophyll	1	924,0949	363,4221	1587,3957	381,0719	110,1270	744,2750	380,8651	56,9268	842,3813	33,5013	-0,0647	295,8855	135,5056	12,1381	364,2990	28,3425	33,4441	22,7733	29,6416	34,5042	24,3523	25,9691	30,0183	21,4708	25,7572	31,3891	19,7794	30,6984	36,8248	23,9664
273	Vellimalai (Shola forest)	Ficus microcarpa L. f.	Moraceae	Trees	Evergreen	11,8031	78,7153	677	1,4910	1,4125	Notophyll	1	924,0949	363,4221	1587,3957	381,0719	110,1270	744,2750	380,8651	56,9268	842,3813	33,5013	-0,0647	295,8855	135,5056	12,1381	364,2990	28,3425	33,4441	22,7733	29,6416	34,5042	24,3523	25,9691	30,0183	21,4708	25,7572	31,3891	19,7794	30,6984	36,8248	23,9664
274	Vellimalai (Shola forest)	Diospyros peregrina (Gaertn.) Gurke	Ebenaceae	Trees	Evergreen	11,8031	78,7153	677	1,8635	1,7936	Mesophyll	1	924,0949	363,4221	1587,3957	381,0719	110,1270	744,2750	380,8651	56,9268	842,3813	33,5013	-0,0647	295,8855	135,5056	12,1381	364,2990	28,3425	33,4441	22,7733	29,6416	34,5042	24,3523	25,9691	30,0183	21,4708	25,7572	31,3891	19,7794	30,6984	36,8248	23,9664
275	Vellimalai (Shola forest)	Nothopegia heyneana Gamble	Anacardiaceae	Trees	Evergreen	11,8031	78,7153	677	1,2668	1,1908	Microphyll	1	924,0949	363,4221	1587,3957	381,0719	110,1270	744,2750	380,8651	56,9268	842,3813	33,5013	-0,0647	295,8855	135,5056	12,1381	364,2990	28,3425	33,4441	22,7733	29,6416	34,5042	24,3523	25,9691	30,0183	21,4708	25,7572	31,3891	19,7794	30,6984	36,8248	23,9664
276	Vellimalai (Shola forest)	Celtis philippensis Blanco	Ulmaceae	Trees	Evergreen	11,8031	78,7153	677	1,8530	1,8047	Mesophyll	1	924,0949	363,4221	1587,3957	381,0719	110,1270	744,2750	380,8651	56,9268	842,3813	33,5013	-0,0647	295,8855	135,5056	12,1381	364,2990	28,3425	33,4441	22,7733	29,6416	34,5042	24,3523	25,9691	30,0183	21,4708	25,7572	31,3891	19,7794	30,6984	36,8248	23,9664
278	Vellimalai (Shola forest)	Holoptelea integrifolia (Roxb.) Planch.	Ulmaceae	Trees	Deciduous	11,8031	78,7153	677	1,7580	1,7036	Mesophyll	0,33	924,0949	363,4221	1587,3957	381,0719	110,1270	744,2750	380,8651	56,9268	842,3813	33,5013	-0,0647	295,8855	135,5056	12,1381	364,2990	28,3425	33,4441	22,7733	29,6416	34,5042	24,3523	25,9691	30,0183	21,4708	25,7572	31,3891	19,7794	30,6984	36,8248	23,9664
279	Vellimalai (Shola forest)	Psydrax dicoccos Gaertn.	Rubiaceae	Trees	Evergreen	11,8031	78,7153	677	1,7374	1,6788	Mesophyll	0,5	924,0949	363,4221	1587,3957	381,0719	110,1270	744,2750	380,8651	56,9268	842,3813	33,5013	-0,0647	295,8855	135,5056	12,1381	364,2990	28,3425	33,4441	22,7733	29,6416	34,5042	24,3523	25,9691	30,0183	21,4708	25,7572	31,3891	19,7794	30,6984	36,8248	23,9664
280	Vellimalai (Shola forest)	Pongamia pinnata (L.) Pierre	Fabaceae	Trees	Deciduous	11,8031	78,7153	677	1,6467	1,5705	Notophyll	1	924,0949	363,4221	1587,3957	381,0719	110,1270	744,2750	380,8651	56,9268	842,3813	33,5013	-0,0647	295,8855	135,5056	12,1381	364,2990	28,3425	33,4441	22,7733	29,6416	34,5042	24,3523	25,9691	30,0183	21,4708	25,7572	31,3891	19,7794	30,6984	36,8248	23,9664
281	Vellimalai (Shola forest)	Strychnos nux-vomica L.	Loganiaceae	Trees	Deciduous	11,8031	78,7153	677	1,5578	1,5240	Notophyll	1	924,0949	363,4221	1587,3957	381,0719	110,1270	744,2750	380,8651	56,9268	842,3813	33,5013	-0,0647	295,8855	135,5056	12,1381	364,2990	28,3425	33,4441	22,7733	29,6416	34,5042	24,3523	25,9691	30,0183	21,4708	25,7572	31,3891	19,7794	30,6984	36,8248	23,9664
282	Vellimalai (Shola forest)	Uvaria narum (Dunal) Wall. ex Wight and Arn.	Annonaceae	Climbing Shrub	Evergreen	11,8031	78,7153	677	1,7353	1,7040	Mesophyll	1	924,0949	363,4221	1587,3957	381,0719	110,1270	744,2750	380,8651	56,9268	842,3813	33,5013	-0,0647	295,8855	135,5056	12,1381	364,2990	28,3425	33,4441	22,7733	29,6416	34,5042	24,3523	25,9691	30,0183	21,4708	25,7572	31,3891	19,7794	30,6984	36,8248	23,9664
283	Vellimalai (Shola forest)	Embelia ribes Burm. f.	Primulaceae	Climbing Shrub	Evergreen	11,8031	78,7153	677	1,8636	1,7830	Mesophyll	1	924,0949	363,4221	1587,3957	381,0719	110,1270	744,2750	380,8651	56,9268	842,3813	33,5013	-0,0647	295,8855	135,5056	12,1381	364,2990	28,3425	33,4441	22,7733	29,6416	34,5042	24,3523	25,9691	30,0183	21,4708	25,7572	31,3891	19,7794	30,6984	36,8248	23,9664
284	Vellimalai (Shola forest)	Atalantia monophylla (L.) DC.	Rutaceae	Trees	Evergreen	11,8031	78,7153	677	1,5615	1,4829	Notophyll	0,5	924,0949	363,4221	1587,3957	381,0719	110,1270	744,2750	380,8651	56,9268	842,3813	33,5013	-0,0647	295,8855	135,5056	12,1381	364,2990	28,3425	33,4441	22,7733	29,6416	34,5042	24,3523	25,9691	30,0183	21,4708	25,7572	31,3891	19,7794	30,6984	36,8248	23,9664
285	Vellimalai (Shola forest)	Ficus tsjahela Burm. f.	Moraceae	Trees	Deciduous	11,8031	78,7153	677	1,7375	1,6442	Mesophyll	1	924,0949	363,4221	1587,3957	381,0719	110,1270	744,2750	380,8651	56,9268	842,3813	33,5013	-0,0647	295,8855	135,5056	12,1381	364,2990	28,3425	33,4441	22,7733	29,6416	34,5042	24,3523	25,9691	30,0183	21,4708	25,7572	31,3891	19,7794	30,6984	36,8248	23,9664
286	Vellimalai (Shola forest)	Macaranga peltata (Roxb.) Muell.-Arg.	Euphorbiaceae	Trees	Evergreen	11,8022	78,7176	830	2,4088	2,3320	Macrophyll	1	923,9924	362,4273	1587,5130	380,9697	109,9565	744,2391	381,1079	56,9169	842,8337	33,5432	-0,0647	295,6685	135,3212	12,0754	364,3533	28,3480	33,4455	22,7802	29,6491	34,5101	24,3586	25,9738	30,0180	21,4781	25,7603	31,3850	19,7883	30,7034	36,8256	23,9721
287	Vellimalai (Shola forest)	Mimusops elengi L.	Sapotaceae	Trees	Evergreen	11,8022	78,7176	830	1,6163	1,5608	Notophyll	1	923,9924	362,4273	1587,5130	380,9697	109,9565	744,2391	381,1079	56,9169	842,8337	33,5432	-0,0647	295,6685	135,3212	12,0754	364,3533	28,3480	33,4455	22,7802	29,6491	34,5101	24,3586	25,9738	30,0180	21,4781	25,7603	31,3850	19,7883	30,7034	36,8256	23,9721
288	Vellimalai (Shola forest)	Gardenia latifolia Ait.	Rubiaceae	Trees	Deciduous	11,8022	78,7176	830	2,1021	2,0562	Mesophyll	1	923,9924	362,4273	1587,5130	380,9697	109,9565	744,2391	381,1079	56,9169	842,8337	33,5432	-0,0647	295,6685	135,3212	12,0754	364,3533	28,3480	33,4455	22,7802	29,6491	34,5101	24,3586	25,9738	30,0180	21,4781	25,7603	31,3850	19,7883	30,7034	36,8256	23,9721
289	Vellimalai (Shola forest)	Pterospermum canescens Roxb.	Malvaceae	Trees	Evergreen	11,8022	78,7176	830	1,8071	1,7523	Mesophyll	1	923,9924	362,4273	1587,5130	380,9697	109,9565	744,2391	381,1079	56,9169	842,8337	33,5432	-0,0647	295,6685	135,3212	12,0754	364,3533	28,3480	33,4455	22,7802	29,6491	34,5101	24,3586	25,9738	30,0180	21,4781	25,7603	31,3850	19,7883	30,7034	36,8256	23,9721
290	Vellimalai (Shola forest)	Streblus asper Lour.	Moraceae	Trees	Evergreen	11,8031	78,7153	677	1,1656	1,0422	Microphyll	1	924,0949	363,4221	1587,3957	381,0719	110,1270	744,2750	380,8651	56,9268	842,3813	33,5013	-0,0647	295,8855	135,5056	12,1381	364,2990	28,3425	33,4441	22,7733	29,6416	34,5042	24,3523	25,9691	30,0183	21,4708	25,7572	31,3891	19,7794	30,6984	36,8248	23,9664
321	Chinnarutla	Gardenia latifolia Ait.	Rubiaceae	Trees	Deciduous	16,0430	78,9688	601	2,4996	2,4878	Macrophyll	1	803,2103	408,1714	1559,0481	455,8224	208,7635	834,0236	169,9465	8,6588	535,7572	13,7565	-0,0647	129,9100	59,1228	1,9916	262,4050	34,6136	34,4188	34,7071	34,4192	34,2913	34,5797	31,5548	31,3910	31,6430	32,8811	32,6018	32,9977	38,9710	38,9286	39,0820
322	Chinnarutla	Stereospermum personatum (Hassk.) Chatterjee	Bignoniaceae	Trees	Deciduous	16,0430	78,9688	601	1,6095	1,5896	Notophyll	1	803,2103	408,1714	1559,0481	455,8224	208,7635	834,0236	169,9465	8,6588	535,7572	13,7565	-0,0647	129,9100	59,1228	1,9916	262,4050	34,6136	34,4188	34,7071	34,4192	34,2913	34,5797	31,5548	31,3910	31,6430	32,8811	32,6018	32,9977	38,9710	38,9286	39,0820
323	Chinnarutla	Hiptage benghalensis (L.) Kurz.	Malpighiaceae	Climbing Shrub	Evergreen	16,0430	78,9688	601	1,8491	1,8047	Mesophyll	1	803,2103	408,1714	1559,0481	455,8224	208,7635	834,0236	169,9465	8,6588	535,7572	13,7565	-0,0647	129,9100	59,1228	1,9916	262,4050	34,6136	34,4188	34,7071	34,4192	34,2913	34,5797	31,5548	31,3910	31,6430	32,8811	32,6018	32,9977	38,9710	38,9286	39,0820
324	Chinnarutla	Ixora pavetta Andr.	Rubiaceae	Trees	Evergreen	16,0430	78,9688	601	1,9466	1,9252	Mesophyll	0,5	803,2103	408,1714	1559,0481	455,8224	208,7635	834,0236	169,9465	8,6588	535,7572	13,7565	-0,0647	129,9100	59,1228	1,9916	262,4050	34,6136	34,4188	34,7071	34,4192	34,2913	34,5797	31,5548	31,3910	31,6430	32,8811	32,6018	32,9977	38,9710	38,9286	39,0820
325	Chinnarutla	Gardenia resinifera Roth.	Rubiaceae	Trees	Deciduous	16,0430	78,9688	601	1,9533	1,9280	Mesophyll	1	803,2103	408,1714	1559,0481	455,8224	208,7635	834,0236	169,9465	8,6588	535,7572	13,7565	-0,0647	129,9100	59,1228	1,9916	262,4050	34,6136	34,4188	34,7071	34,4192	34,2913	34,5797	31,5548	31,3910	31,6430	32,8811	32,6018	32,9977	38,9710	38,9286	39,0820
326	Chinnarutla	Buchanania lanzan Spreng.	Anacardiaceae	Trees	Evergreen	16,0430	78,9688	601	2,3014	2,2705	Macrophyll	1	803,2103	408,1714	1559,0481	455,8224	208,7635	834,0236	169,9465	8,6588	535,7572	13,7565	-0,0647	129,9100	59,1228	1,9916	262,4050	34,6136	34,4188	34,7071	34,4192	34,2913	34,5797	31,5548	31,3910	31,6430	32,8811	32,6018	32,9977	38,9710	38,9286	39,0820
327	Chinnarutla	Pongamia pinnata (L.) Pierre	Fabaceae	Trees	Deciduous	16,0430	78,9688	601	1,9048	1,8534	Mesophyll	1	803,2103	408,1714	1559,0481	455,8224	208,7635	834,0236	169,9465	8,6588	535,7572	13,7565	-0,0647	129,9100	59,1228	1,9916	262,4050	34,6136	34,4188	34,7071	34,4192	34,2913	34,5797	31,5548	31,3910	31,6430	32,8811	32,6018	32,9977	38,9710	38,9286	39,0820
328	Chinnarutla	Syzygium cumini (L.) Skeels.	Myrtaceae	Trees	Evergreen	16,0430	78,9688	601	1,5553	1,4753	Notophyll	0,5	803,2103	408,1714	1559,0481	455,8224	208,7635	834,0236	169,9465	8,6588	535,7572	13,7565	-0,0647	129,9100	59,1228	1,9916	262,4050	34,6136	34,4188	34,7071	34,4192	34,2913	34,5797	31,5548	31,3910	31,6430	32,8811	32,6018	32,9977	38,9710	38,9286	39,0820
329	Chinnarutla	Diospyros chloroxylon Roxb.	Ebenaceae	Trees	Evergreen	16,0430	78,9688	601	1,7270	1,6999	Mesophyll	1	803,2103	408,1714	1559,0481	455,8224	208,7635	834,0236	169,9465	8,6588	535,7572	13,7565	-0,0647	129,9100	59,1228	1,9916	262,4050	34,6136	34,4188	34,7071	34,4192	34,2913	34,5797	31,5548	31,3910	31,6430	32,8811	32,6018	32,9977	38,9710	38,9286	39,0820
330	Chinnarutla	Ficus tsjahela Burm. f.	Moraceae	Trees	Deciduous	16,0430	78,9688	601	1,8826	1,8235	Mesophyll	1	803,2103	408,1714	1559,0481	455,8224	208,7635	834,0236	169,9465	8,6588	535,7572	13,7565	-0,0647	129,9100	59,1228	1,9916	262,4050	34,6136	34,4188	34,7071	34,4192	34,2913	34,5797	31,5548	31,3910	31,6430	32,8811	32,6018	32,9977	38,9710	38,9286	39,0820
331	Chinnarutla	Mallotus philippensis (Lam.) Muell.-Arg.	Euphorbiaceae	Trees	Evergreen	16,0430	78,9688	601	2,0182	1,9878	Mesophyll	0,5	803,2103	408,1714	1559,0481	455,8224	208,7635	834,0236	169,9465	8,6588	535,7572	13,7565	-0,0647	129,9100	59,1228	1,9916	262,4050	34,6136	34,4188	34,7071	34,4192	34,2913	34,5797	31,5548	31,3910	31,6430	32,8811	32,6018	32,9977	38,9710	38,9286	39,0820
332	Chinnarutla	Terminalia arjuna (Roxb. ex DC.) Wt. and Arn.	Combretaceae	Trees	Deciduous	16,0430	78,9688	601	1,6246	1,5205	Notophyll	1	803,2103	408,1714	1559,0481	455,8224	208,7635	834,0236	169,9465	8,6588	535,7572	13,7565	-0,0647	129,9100	59,1228	1,9916	262,4050	34,6136	34,4188	34,7071	34,4192	34,2913	34,5797	31,5548	31,3910	31,6430	32,8811	32,6018	32,9977	38,9710	38,9286	39,0820
333	Chinnarutla	Ficus virens Ait.	Moraceae	Trees	Evergreen	16,0430	78,9688	601	1,8213	1,7711	Mesophyll	1	803,2103	408,1714	1559,0481	455,8224	208,7635	834,0236	169,9465	8,6588	535,7572	13,7565	-0,0647	129,9100	59,1228	1,9916	262,4050	34,6136	34,4188	34,7071	34,4192	34,2913	34,5797	31,5548	31,3910	31,6430	32,8811	32,6018	32,9977	38,9710	38,9286	39,0820
334	Chinnarutla	Ziziphus rugosa Lam.	Rhamnaceae	Woody Climber	Evergreen	16,0430	78,9688	601	1,8758	1,8331	Mesophyll	1	803,2103	408,1714	1559,0481	455,8224	208,7635	834,0236	169,9465	8,6588	535,7572	13,7565	-0,0647	129,9100	59,1228	1,9916	262,4050	34,6136	34,4188	34,7071	34,4192	34,2913	34,5797	31,5548	31,3910	31,6430	32,8811	32,6018	32,9977	38,9710	38,9286	39,0820
335	Chinnarutla	Bauhinia vahlii Wight and Arn.	Fabaceae	Woody Climber	Deciduous	16,0430	78,9688	601	2,6247	2,5952	Macrophyll	1	803,2103	408,1714	1559,0481	455,8224	208,7635	834,0236	169,9465	8,6588	535,7572	13,7565	-0,0647	129,9100	59,1228	1,9916	262,4050	34,6136	34,4188	34,7071	34,4192	34,2913	34,5797	31,5548	31,3910	31,6430	32,8811	32,6018	32,9977	38,9710	38,9286	39,0820
336	Chinnarutla	Mangifera indica L.	Anacardiaceae	Trees	Evergreen	16,0430	78,9688	601	1,8417	1,8176	Mesophyll	1	803,2103	408,1714	1559,0481	455,8224	208,7635	834,0236	169,9465	8,6588	535,7572	13,7565	-0,0647	129,9100	59,1228	1,9916	262,4050	34,6136	34,4188	34,7071	34,4192	34,2913	34,5797	31,5548	31,3910	31,6430	32,8811	32,6018	32,9977	38,9710	38,9286	39,0820
337	Chinnarutla	Premna tomentosa Willd.	Verbenaceae	Trees	Deciduous	16,0430	78,9688	601	2,0408	2,0046	Mesophyll	1	803,2103	408,1714	1559,0481	455,8224	208,7635	834,0236	169,9465	8,6588	535,7572	13,7565	-0,0647	129,9100	59,1228	1,9916	262,4050	34,6136	34,4188	34,7071	34,4192	34,2913	34,5797	31,5548	31,3910	31,6430	32,8811	32,6018	32,9977	38,9710	38,9286	39,0820
338	Chinnarutla	Madhuca indica J. Gmelin	Sapotaceae	Trees	Deciduous	16,0430	78,9688	601	1,9380	1,9070	Mesophyll	1	803,2103	408,1714	1559,0481	455,8224	208,7635	834,0236	169,9465	8,6588	535,7572	13,7565	-0,0647	129,9100	59,1228	1,9916	262,4050	34,6136	34,4188	34,7071	34,4192	34,2913	34,5797	31,5548	31,3910	31,6430	32,8811	32,6018	32,9977	38,9710	38,9286	39,0820
340	Chinnarutla	Strychnos potatorum L. f.	Loganiaceae	Trees	Deciduous	16,0430	78,9688	601	1,4427	1,4272	Notophyll	1	803,2103	408,1714	1559,0481	455,8224	208,7635	834,0236	169,9465	8,6588	535,7572	13,7565	-0,0647	129,9100	59,1228	1,9916	262,4050	34,6136	34,4188	34,7071	34,4192	34,2913	34,5797	31,5548	31,3910	31,6430	32,8811	32,6018	32,9977	38,9710	38,9286	39,0820
341	Chinnarutla	Gardenia latifolia Ait.	Rubiaceae	Trees	Deciduous	16,0430	78,9688	601	2,7530	2,7447	Macrophyll	1	803,2103	408,1714	1559,0481	455,8224	208,7635	834,0236	169,9465	8,6588	535,7572	13,7565	-0,0647	129,9100	59,1228	1,9916	262,4050	34,6136	34,4188	34,7071	34,4192	34,2913	34,5797	31,5548	31,3910	31,6430	32,8811	32,6018	32,9977	38,9710	38,9286	39,0820
342	Pulicheruvu	Cordia dichotoma Forst. f.	Boraginaceae	Trees	Deciduous	15,9998	78,9168	725	1,8322	1,7575	Mesophyll	1	799,0553	405,1213	1562,0720	454,7947	205,8050	834,6128	162,3601	8,6097	520,3759	12,0002	-0,0647	122,8406	59,2278	1,8642	266,8629	34,6284	34,4679	34,6876	34,4115	34,3647	34,5301	31,5677	31,4404	31,6234	32,9710	32,6993	33,0451	38,9873	38,9341	39,0581
343	Pulicheruvu	Psydrax dicoccos Gaertn.	Rubiaceae	Trees	Evergreen	15,9998	78,9168	725	1,8088	1,7643	Mesophyll	0,5	799,0553	405,1213	1562,0720	454,7947	205,8050	834,6128	162,3601	8,6097	520,3759	12,0002	-0,0647	122,8406	59,2278	1,8642	266,8629	34,6284	34,4679	34,6876	34,4115	34,3647	34,5301	31,5677	31,4404	31,6234	32,9710	32,6993	33,0451	38,9873	38,9341	39,0581
344	Pulicheruvu	Schleichera oleosa (Lour.) Oken.	Sapindaceae	Trees	Deciduous	15,9998	78,9168	725	2,0802	2,0523	Mesophyll	1	799,0553	405,1213	1562,0720	454,7947	205,8050	834,6128	162,3601	8,6097	520,3759	12,0002	-0,0647	122,8406	59,2278	1,8642	266,8629	34,6284	34,4679	34,6876	34,4115	34,3647	34,5301	31,5677	31,4404	31,6234	32,9710	32,6993	33,0451	38,9873	38,9341	39,0581
345	Pulicheruvu	Tamilnadia uliginosa (Retz.) Tirveng. and Sastre	Rubiaceae	Trees	Deciduous	15,9998	78,9168	725	2,0435	1,9736	Mesophyll	1	799,0553	405,1213	1562,0720	454,7947	205,8050	834,6128	162,3601	8,6097	520,3759	12,0002	-0,0647	122,8406	59,2278	1,8642	266,8629	34,6284	34,4679	34,6876	34,4115	34,3647	34,5301	31,5677	31,4404	31,6234	32,9710	32,6993	33,0451	38,9873	38,9341	39,0581
346	Pulicheruvu	Anogeissus latifolia (Roxb. ex DC.) Wall. ex Guill. and Perr.	Combretaceae	Trees	Deciduous	15,9998	78,9168	725	1,6865	1,6410	Mesophyll	0,5	799,0553	405,1213	1562,0720	454,7947	205,8050	834,6128	162,3601	8,6097	520,3759	12,0002	-0,0647	122,8406	59,2278	1,8642	266,8629	34,6284	34,4679	34,6876	34,4115	34,3647	34,5301	31,5677	31,4404	31,6234	32,9710	32,6993	33,0451	38,9873	38,9341	39,0581
347	Pulicheruvu	Ziziphus xylopyrus (Retz.) Willd.	Rhamnaceae	Trees	Deciduous	15,9998	78,9168	725	1,5674	1,5136	Notophyll	1	799,0553	405,1213	1562,0720	454,7947	205,8050	834,6128	162,3601	8,6097	520,3759	12,0002	-0,0647	122,8406	59,2278	1,8642	266,8629	34,6284	34,4679	34,6876	34,4115	34,3647	34,5301	31,5677	31,4404	31,6234	32,9710	32,6993	33,0451	38,9873	38,9341	39,0581
348	Pulicheruvu	Ehretia canarensis (Clarke) Gamble	Boraginaceae	Trees	Deciduous	15,9998	78,9168	725	1,6654	1,6024	Mesophyll	1	799,0553	405,1213	1562,0720	454,7947	205,8050	834,6128	162,3601	8,6097	520,3759	12,0002	-0,0647	122,8406	59,2278	1,8642	266,8629	34,6284	34,4679	34,6876	34,4115	34,3647	34,5301	31,5677	31,4404	31,6234	32,9710	32,6993	33,0451	38,9873	38,9341	39,0581
349	Pulicheruvu	Atalantia monophylla (L.) DC.	Rutaceae	Trees	Evergreen	15,9998	78,9168	725	1,0524	1,0203	Microphyll	0,5	799,0553	405,1213	1562,0720	454,7947	205,8050	834,6128	162,3601	8,6097	520,3759	12,0002	-0,0647	122,8406	59,2278	1,8642	266,8629	34,6284	34,4679	34,6876	34,4115	34,3647	34,5301	31,5677	31,4404	31,6234	32,9710	32,6993	33,0451	38,9873	38,9341	39,0581
350	Pulicheruvu	Strychnos potatorum L. f.	Loganiaceae	Trees	Deciduous	15,9998	78,9168	725	1,4570	1,4350	Notophyll	1	799,0553	405,1213	1562,0720	454,7947	205,8050	834,6128	162,3601	8,6097	520,3759	12,0002	-0,0647	122,8406	59,2278	1,8642	266,8629	34,6284	34,4679	34,6876	34,4115	34,3647	34,5301	31,5677	31,4404	31,6234	32,9710	32,6993	33,0451	38,9873	38,9341	39,0581
351	Pulicheruvu	Santalum album L.	Santalaceae	Trees	Evergreen	15,9998	78,9168	725	1,0184	0,9449	Microphyll	1	799,0553	405,1213	1562,0720	454,7947	205,8050	834,6128	162,3601	8,6097	520,3759	12,0002	-0,0647	122,8406	59,2278	1,8642	266,8629	34,6284	34,4679	34,6876	34,4115	34,3647	34,5301	31,5677	31,4404	31,6234	32,9710	32,6993	33,0451	38,9873	38,9341	39,0581
352	Pulicheruvu1	Bridelia retusa (L.) Spreng.	Euphorbiaceae	Trees	Deciduous	16,0010	78,9163	745	1,7209	1,6973	Mesophyll	1	799,3276	405,2953	1562,1678	454,9293	205,8810	834,6622	162,1871	8,6063	520,1529	12,0024	-0,0647	122,8691	59,2161	1,8680	266,9769	34,6278	34,4670	34,6870	34,4091	34,3619	34,5280	31,5675	31,4401	31,6232	32,9706	32,6988	33,0447	38,9883	38,9352	39,0591
353	Pulicheruvu1	Cordia dichotoma Forst. f.	Boraginaceae	Trees	Deciduous	16,0010	78,9163	745	1,5430	1,4938	Notophyll	1	799,3276	405,2953	1562,1678	454,9293	205,8810	834,6622	162,1871	8,6063	520,1529	12,0024	-0,0647	122,8691	59,2161	1,8680	266,9769	34,6278	34,4670	34,6870	34,4091	34,3619	34,5280	31,5675	31,4401	31,6232	32,9706	32,6988	33,0447	38,9883	38,9352	39,0591
354	Pulicheruvu1	Ficus religiosa L.	Moraceae	Trees	Deciduous	16,0010	78,9163	745	1,7068	1,6890	Mesophyll	1	799,3276	405,2953	1562,1678	454,9293	205,8810	834,6622	162,1871	8,6063	520,1529	12,0024	-0,0647	122,8691	59,2161	1,8680	266,9769	34,6278	34,4670	34,6870	34,4091	34,3619	34,5280	31,5675	31,4401	31,6232	32,9706	32,6988	33,0447	38,9883	38,9352	39,0591
355	Pulicheruvu1	Diospyros chloroxylon Roxb.	Ebenaceae	Trees	Evergreen	16,0010	78,9163	745	1,6030	1,5580	Notophyll	1	799,3276	405,2953	1562,1678	454,9293	205,8810	834,6622	162,1871	8,6063	520,1529	12,0024	-0,0647	122,8691	59,2161	1,8680	266,9769	34,6278	34,4670	34,6870	34,4091	34,3619	34,5280	31,5675	31,4401	31,6232	32,9706	32,6988	33,0447	38,9883	38,9352	39,0591
356	Pulicheruvu1	Mitragyna parvifolia (Roxb.) Korth.	Rubiaceae	Trees	Deciduous	16,0010	78,9163	745	1,8350	1,8164	Mesophyll	1	799,3276	405,2953	1562,1678	454,9293	205,8810	834,6622	162,1871	8,6063	520,1529	12,0024	-0,0647	122,8691	59,2161	1,8680	266,9769	34,6278	34,4670	34,6870	34,4091	34,3619	34,5280	31,5675	31,4401	31,6232	32,9706	32,6988	33,0447	38,9883	38,9352	39,0591
357	Pulicheruvu1	Syzygium cumini (L.) Skeels.	Myrtaceae	Trees	Evergreen	16,0010	78,9163	745	1,5730	1,5371	Notophyll	0,5	799,3276	405,2953	1562,1678	454,9293	205,8810	834,6622	162,1871	8,6063	520,1529	12,0024	-0,0647	122,8691	59,2161	1,8680	266,9769	34,6278	34,4670	34,6870	34,4091	34,3619	34,5280	31,5675	31,4401	31,6232	32,9706	32,6988	33,0447	38,9883	38,9352	39,0591
358	Pulicheruvu1	Ficus benghalensis L.	Moraceae	Trees	Deciduous	16,0010	78,9163	745	1,8730	1,7988	Mesophyll	1	799,3276	405,2953	1562,1678	454,9293	205,8810	834,6622	162,1871	8,6063	520,1529	12,0024	-0,0647	122,8691	59,2161	1,8680	266,9769	34,6278	34,4670	34,6870	34,4091	34,3619	34,5280	31,5675	31,4401	31,6232	32,9706	32,6988	33,0447	38,9883	38,9352	39,0591
359	Pulicheruvu1	Bauhinia racemosa Lam.	Fabaceae	Trees	Deciduous	16,0010	78,9163	745	1,2326	1,2228	Microphyll	1	799,3276	405,2953	1562,1678	454,9293	205,8810	834,6622	162,1871	8,6063	520,1529	12,0024	-0,0647	122,8691	59,2161	1,8680	266,9769	34,6278	34,4670	34,6870	34,4091	34,3619	34,5280	31,5675	31,4401	31,6232	32,9706	32,6988	33,0447	38,9883	38,9352	39,0591
360	Pulicheruvu1	Dendrophthoe falcata (L. f.) Etting.	Loranthaceae	0	Deciduous	16,0010	78,9163	745	1,6683	1,5070	Mesophyll	1	799,3276	405,2953	1562,1678	454,9293	205,8810	834,6622	162,1871	8,6063	520,1529	12,0024	-0,0647	122,8691	59,2161	1,8680	266,9769	34,6278	34,4670	34,6870	34,4091	34,3619	34,5280	31,5675	31,4401	31,6232	32,9706	32,6988	33,0447	38,9883	38,9352	39,0591
361	Ganniguntapenta	Polyalthia cerasoides (Roxb.) Bedd.	Annonaceae	Trees	Deciduous	15,9748	78,9110	661	1,4091	1,3782	Notophyll	1	794,7499	402,8244	1561,5145	453,2384	204,6629	834,5681	163,6072	8,5955	523,4047	11,8376	-0,0647	121,4061	59,4105	1,7811	264,9978	34,6298	34,4643	34,6846	34,4014	34,3583	34,5386	31,5726	31,4569	31,6238	32,9818	32,7136	33,0501	38,9654	38,8958	39,0308
362	Ganniguntapenta	Soymida febrifuga (Roxb.) A. Juss.	Meliaceae	Trees	Deciduous	15,9748	78,9110	661	1,6017	1,5792	Notophyll	1	794,7499	402,8244	1561,5145	453,2384	204,6629	834,5681	163,6072	8,5955	523,4047	11,8376	-0,0647	121,4061	59,4105	1,7811	264,9978	34,6298	34,4643	34,6846	34,4014	34,3583	34,5386	31,5726	31,4569	31,6238	32,9818	32,7136	33,0501	38,9654	38,8958	39,0308
363	Ganniguntapenta	Sapindus emarginatus Vahl.	Sapindaceae	Trees	Deciduous	15,9748	78,9110	661	1,6275	1,6074	Notophyll	1	794,7499	402,8244	1561,5145	453,2384	204,6629	834,5681	163,6072	8,5955	523,4047	11,8376	-0,0647	121,4061	59,4105	1,7811	264,9978	34,6298	34,4643	34,6846	34,4014	34,3583	34,5386	31,5726	31,4569	31,6238	32,9818	32,7136	33,0501	38,9654	38,8958	39,0308
364	Ganniguntapenta	Diospyros melanoxylon Roxb.	Ebenaceae	Trees	Deciduous	15,9748	78,9110	661	1,8361	1,8145	Mesophyll	0,5	794,7499	402,8244	1561,5145	453,2384	204,6629	834,5681	163,6072	8,5955	523,4047	11,8376	-0,0647	121,4061	59,4105	1,7811	264,9978	34,6298	34,4643	34,6846	34,4014	34,3583	34,5386	31,5726	31,4569	31,6238	32,9818	32,7136	33,0501	38,9654	38,8958	39,0308