

## Floristic survey of Arunachalapuram village, Virudhunagar District, Tamil Nadu

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### Abstract

Survey of Angiosperm plant is playing an important role in every ecological unit. It's classified into two categories dicot and monocot. The present study is an attempt to survey of the Flora of Arunachalapuram Village, Virudhunagar District, Tamil Nadu and India. We explore an area and observed, collect and identify plant species of Angiosperms grow in the area. Plant species have been listed systematically which counts including indigenous cultivated and naturalized plants. Totally 143 plants were surveyed. Among which 124 plants belong to Dicotyledons and 19 plants belong to Monocotyledons. These 143 plants belong to 45 families. The Family Poaceae (Gramineae) has representatives with a maximum 15 members in Arunachalapuram village. These plant species grow wild as well as cultivated in the study site.

**Keywords:** floristic survey, angiosperms, dicotyledons, monocotyledons, ecological unit

### 1. Introduction

The diversity of plant life is an essential underpinning of most of our terrestrial ecosystems. Another important role of plant life is the provision of ecosystem services the protection of water sheds, stabilization of slopes, improvement of soils, moderation of climate and the provision of a habitat for much of our wild fauna. While it is generally accepted today that the conservation of all biodiversity should be our goal, understanding the natural distribution of plants (floristic studies) is central to conserving biodiversity and managing ecosystems for long-term viability and sustainability<sup>[1]</sup>. The survival of man is intimately related to the availability of different plant resources. The plant wealth of a country is its pride and acquiring knowledge of flora and vegetation is of immense scientific and commercial importance. India is a big country covering wide range of vegetation types<sup>[2]</sup> and represents a very rich flora including a large number of endemic species<sup>[3]</sup>. In the present study is aimed to have floristic survey of Arunachalapuram village with special reference to Angiosperms.

### 2. Material and Methods

#### 2.1 Study area

The specimens for the present study were collected through extensive field studies in different parts of Arunachalapuram Village (09°12' 77" N, 77°53' 81" E) is situated 14 km away from Sivakasi along Sivakasi to Srivilliputhur High way in Tamilnadu. Arunachalapuram Village belong to Sivakasi Taluk, Virudhunagar District of Tamilnadu (Fig.1). The altitude of the study area is of 111 m + MSL. The temperature varies from 22.8°C to 36.4°C during the period of study (November 2013 to March 2014). The study area falls within the low rainfall area of Virudunagar District of Tamil Nadu. The mean annual rainfall of Arunachalapuram Village 20.8mm. The annual rainfall for the year 2013-2014 was very low.

### 3. Methodology

Intensive exploration trips were undertaken from November 2013 to March 2014. Field trips were made thrice a week from the beginning and twice a week later in order to obtain a thorough collection of plants. Through well planned field visits, 124 Dicotyledons and 19 Monocotyledons belonging to Angiosperms were collected. Special attention was provided to document the data relating to habit, habitat, association with other plants, frequency, ecological features, height of the plants, colour of the flower, local name *etc.*, All the information of every plant were recorded in the field note book at the time morphological characters of all specimens were studied critically. The identification was made with the help of Flora of Presidency of Madras<sup>[4 5]</sup>, Flora of Tamil Nadu Carnatic<sup>[6]</sup> and confirmed their names. Nomenclature is followed as per the Vienna code<sup>[7]</sup>. Vernacular names are provided following Flora of Tamil Nadu Carnatic<sup>[8]</sup>.

### 4. Results and Discussion

The present study is an attempt to survey of the Flora of Arunachalapuram Village, Virudhunagar District, Tamil Nadu, India. Totally 143 plants (Table.1) were surveyed. Among which 124 plants belong to Dicotyledons and 19 plants belong to Monocotyledons. These 143 plants belong to 45 families. The Family *Poaceae* (*Gramineae*) has representatives with a maximum 15 members in Arunachalapuram village. The highest number of species is recorded in *Poaceae* (*Gramineae*), *Amaranthaceae* and *Papillinoideae* (Fig.2). While more number of species is documented in *Euphorbiaceae*, *Acanthaceae*, *Compositae* (*Asteraceae*).and *Cucurbitaceae*, (Fig.3). The families like *Malvaceae*, *Solanaceae* have the representation of six species in each. *Convolvulaceae* and *Lamiaceae* are represented by five species. *Capparidaceae* *Caesalpinoideae* and *Mimosoideae*, are represented by four species in each. *Rubiaceae*, is the only family have the three species (Fig.3) Two species are alone recorded in each of the following eight families: *Aizoaceae*, *Apocyanaceae*, *Boraginaceae*,

*Lythraceae, Asclepiadaceae, Verbenaceae, Nyctaginaceae* and *Commelinaceae*. The following twenty one families have the representation of only one species in the present study, *Brassicaceae, Bignoniaceae, Caryophyllaceae, Eleoarpaceae, Gentianaceae, Meliaceae, Moringaceae, Myrtaceae, Pedaliaceae, Polygalaceae, Apiaceae, Rutaceae, Sterculiaceae, Punicaceae, Zygophyllaceae, Meliaceae, Rhamnaceae, Vitaceae, Sapindaceae, Anacardiaceae, Moringaceae, Myrtaceae, Oleaceae, Aizoaceae, Sapotaceae, Gentianaceae, and Cyperaceae, Tiliaceae* (Fig.4). There are 5 species are listed under least concern and data deficient status of IUCN categories (Table.2).

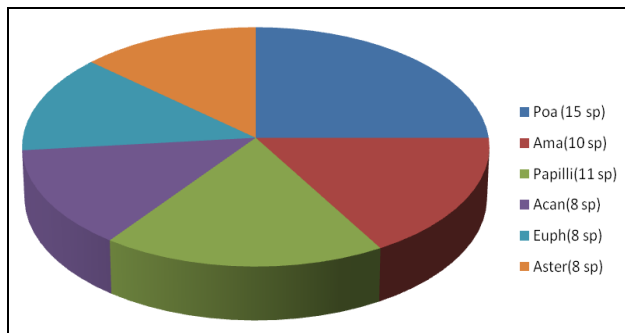
**5. Conclusion**

Well diversified angiospermic Diversity was found in Arunachalapuram village. Due to domestication and urbanization of rural areas some of the wild, plant species become least concern and data deficient. The wild flora was replaced by the cultivated plants in the residential area of Arunachalapuram village. The residents of Arunachalapuram village have shown the interest in growing ornamental plants and kitchen garden plants. The wild flora in the perimeter of cultivation field area make to attract the insect biodiversity which may be enabled the successful insect pollination of crop plants. It is recommended that the least concern species are to be taken care and conserve in order to prevent them to become threatened state.

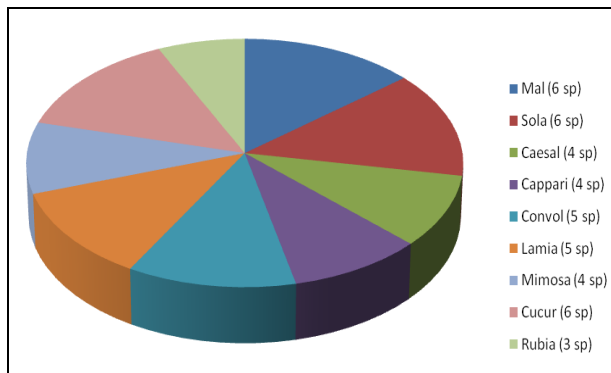
**Figures**



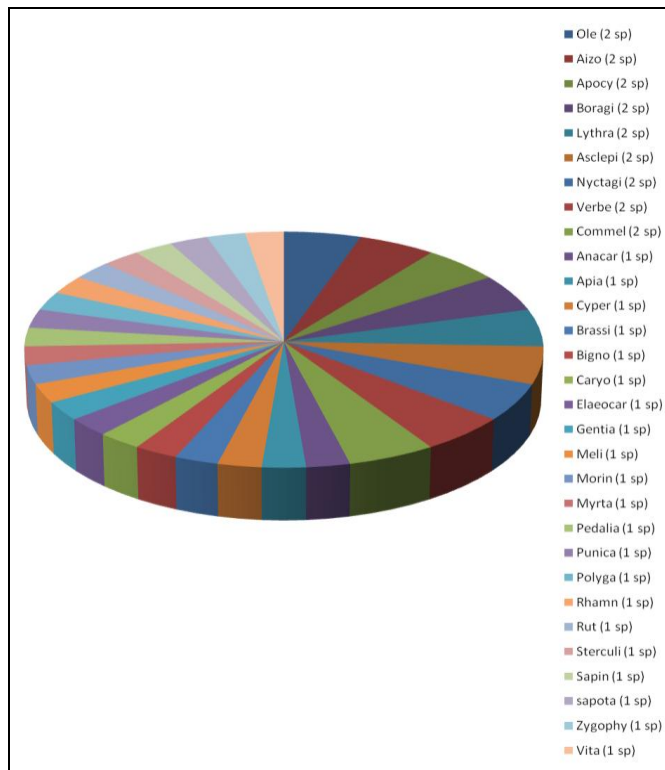
**Fig 1:** Satellite image of Arunachalapuram Village map



**Fig 2:** Families with high occurrence of Species



**Fig 3:** Families with medium occurrence of Species



**Fig 4:** Families with low occurrence of Species

**Table 1:** List of plant species with family collected from Arunachalapuram Village.

S. No	Species Name	Family name	Habit
1	<i>Brassica juncea</i> (L.)Czernj	Brassicaceae	Herb
2	<i>Cadaba indica</i> Lam.	Capparidaceae	Shrub
3	<i>Cleome gynandra</i> L.	Capparidaceae	Herb
4	<i>Cleome felina</i> L.	Capparidaceae	Herb
5	<i>Cleome viscosa</i> L.	Capparidaceae	Herb
6	<i>Polygala erioptera</i> DC	Polygalaceae	Herb
7	<i>Polycarpaea corymbosa</i> Lam.	Caryophyllaceae	Herb
8	<i>Abelmoschus esculentus</i> (L.) Moench	Malvaceae	Herb
9	<i>Abutilon indicum</i> (L.)Sweet	Malvaceae	Herb
10	<i>Pavonia zeylanica</i> (L.) Cav	Malvaceae	Shrub
11	<i>Sida acuta</i> Burm	Malvaceae	Shrub
12	<i>Sida retusa</i> (L.) Bross	Malvaceae	Shrub
13	<i>Sida rhomboidea</i> Roxb	Malvaceae	Shrub
14	<i>Waltheria indica</i> L.	Sterculiaceae	Shrub
15	<i>Triumfetta rotundifolia</i> Lam.	Tiliaceae	Shrub
16	<i>Muntingia calabura</i> L.	Elaeocarpaceae	Tree
17	<i>Tribulus terrestris</i> L.	Zygophyllaceae	Herb
18	<i>Murraya koenigii</i> (L.) Sprengel	Rutaceae	Tree
19	<i>Azadirachta indica</i> (L) A. Juss	Meliaceae	Tree
20	<i>Zizyphus nummularia</i> (Burm. f.)Wight & Arn	Rhamnaceae	Shrub
21	<i>Cissus quadrangularis</i> L.Mant	Vitaceae	Shrub
22	<i>Cardiospermum helicacabum</i> L.	Sapindaceae	Herb
23	<i>Mangifera indica</i> L.	Anacardiaceae	Tree
24	<i>Moringa oleifera</i> Lam.	Moringaceae	Tree
25	<i>Aeschynomene aspera</i> L.	Papillioideae	Herb
26	<i>Arachis hypogea</i> (Willd) DC	Papillioideae	Shrub
27	<i>Alysicarpus monilifer</i> var. <i>pilifer</i> Prain	Papillioideae	Herb
28	<i>Clitoria ternatea</i> L.	Papillioideae	Climber
29	<i>Cyamopsis tetragonoloba</i> (L.)Taub	Papillioideae	Herb
30	<i>Dolichos trilobus</i> L.	Papillioideae	Herb
31	<i>Indigofera ennaephylla</i> L.	Papillioideae	Herb
32	<i>Indigofera hirsuta</i> L.	Papillioideae	Herb
33	<i>Sesbania grandiflora</i> (L.)Poiret	Papillioideae	Shrub
34	<i>Tephrosia purpurea</i> (L.)Pers	Papillioideae	Shrub
35	<i>Vigna aconitifolia</i> (Jacq) Marechal	Papillioideae	Herb
36	<i>Zornia diphylla</i> (L.)Pers	Papillioideae	Herb
37	<i>Caesalpinia pulcherrima</i> (L.)Sw	Caesalpiniaceae	Shrub
38	<i>Cassia occidentalis</i> L.	Caesalpiniaceae	Shrub
39	<i>Cassia tora</i> L.	Caesalpiniaceae	Shrub
40	<i>Parkinsonia aculeata</i> L.	Caesalpiniaceae	Shrub
41	<i>Acacia nilotica</i> (L.)Willd ex Del	Mimosoideae	Tree
42	<i>Acacia planiflora</i> Koenig ex Wight and Arn	Mimosoideae	Tree
43	<i>Pithecellobium dulce</i> (Roxb.)Benth	Mimosoideae	Tree
44	<i>Prosopis juliflora</i> (Sw.)DC	Mimosoideae	Shrub
45	<i>Psidium guajava</i> L.	Myrtaceae	Tree
46	<i>Ammania buccifera</i> L.	Lythraceae	Herb
47	<i>Lawsonia inermis</i> L.	Lythraceae	Shrub
48	<i>Punica granatum</i> L.	Punicaceae	Shrub
49	<i>Citrullus colocynthis</i> (L.) Schrad	Cucurbitaceae	Climber
50	<i>Coccinia indica</i> Wight and Arn	Cucurbitaceae	Herb
51	<i>Lagenaria siceraria</i> (Molina)Standl	Cucurbitaceae	Climber
52	<i>Luffa acutangula</i> (L.)Roxb	Cucurbitaceae	Herb
53	<i>Momordica charantia</i> (L.)	Cucurbitaceae	Climber
54	<i>Mukia mederaspatna</i> (L.)M.Roemer	Cucurbitaceae	Herb
55	<i>Gisekia pharnaceoides</i> L. Mant	Aizoaceae	Herb
56	<i>Mollugo nudicaulis</i> Lam.	Aizoaceae	Herb
57	<i>Borreria hispida</i> (L.)	Rubiaceae	Herb
58	<i>Ixora coccinea</i> L.	Rubiaceae	Shrub
59	<i>Oldenlandia umbellata</i> L.	Rubiaceae	Herb
60	<i>Acanthospermum hipidum</i> DC.	Asteraceae	Herb
61	<i>Centipeda minima</i> (L.)A.	Asteraceae	Herb
62	<i>Chromolaena odorata</i> (L.)King and Robinson	Asteraceae	Herb
63	<i>Eclipta prostrata</i> (L.) L.Mant	Asteraceae	Herb

64	<i>Parthenium hysterophorus</i> L.	Asteraceae	Herb
65	<i>Tridax procumbens</i> L.	Asteraceae	Herb
66	<i>Vicoa indica</i> (L.) Dc in Wight	Asteraceae	Herb
67	<i>Xanthium indicum</i> Koenig in Roxb	Asteraceae	Shrub
68	<i>Manilkara zapota</i> (L.)P. Rogen in Blumea	Sapotaceae	Tree
69	<i>Jasmonium grandiflorum</i> L.	Oleaceae	Shrub
70	<i>Catharanthus roseus</i> (L.) G. Don Gen	Apocyanaceae	Herb
71	<i>Nerium oleander</i> L.	Apocyanaceae	Shrub
72	<i>Caralluma attenuata</i> (Wight)	Asclepiadaceae	Herb
73	<i>Pergularia daemia</i> (Forssk)	Asclepiadaceae	Herb
74	<i>Enicostema axillare</i> (Lam.)	Gentianaceae	Herb
75	<i>Heliotropium indicum</i> L.	Boraginaceae	Herb
76	<i>Trichodesma indicum</i> (L.)R.Br	Boraginaceae	Herb
77	<i>Evolvulus alsinoides</i> L.	Convolvulaceae	Herb
78	<i>Ipomaea aquatica</i> Forssk.	Convolvulaceae	Herb
79	<i>Ipomaea pes-tigridis</i> L.	Convolvulaceae	Climber
80	<i>Merremia emarginata</i> (Burm. f.)	Convolvulaceae	Herb
81	<i>Merremia tridentata</i> (L.)Hallier	Convolvulaceae	Herb
82	<i>Capsicum frutescense</i> L.	Solanaceae	Shrub
83	<i>Datura metel</i> L.	Solanaceae	Shrub
84	<i>Lycopersicon esculentum</i> Mill. Gard	Solanaceae	Shrub
85	<i>Physalis minima</i> L.	Solanaceae	Herb
86	<i>Solanum trilobatum</i> L.	Solanaceae	Shrub
87	<i>Solanum torvum</i> Sw.Nov	Solanaceae	Shrub
88	<i>Tecoma stans</i> (L.) Kunth	Bignoniaceae	Shrub
89	<i>Marytynia annua</i> L.	Pedaliaceae	Shrub
90	<i>Andropogon paniculata</i> (Burm.f.)Wall ex Nees	Acanthaceae	Shrub
91	<i>Crossandra infundibuliformis</i> (L.)Nees in Wallich	Acanthaceae	Shrub
92	<i>Dipterocanthus patulus</i> (Jacq.)Nees in wall	Acanthaceae	Herb
93	<i>Dipterocanthus prostratus</i> (Poir)Nees in wall	Acanthaceae	Herb
94	<i>Justicia simplex</i> D.Don	Acanthaceae	Herb
95	<i>Lepidogathis spinosa</i> Wt ex Nees	Acanthaceae	Herb
96	<i>Peristrophe bicalyculata</i> (Retz.) Nees in Wall	Acanthaceae	Herb
97	<i>Ruellia tuberosa</i> L.	Acanthaceae	Herb
98	<i>Phyla nodiflora</i> (L.)Greene in Pittonia	Verbenaceae	Herb
99	<i>Stachytarpheta indica</i> Sensu.Hook.f.	Verbenaceae	Shrub
100	<i>Anisomeles malabarica</i> (L.)R.Br.ex Sims in curtis	Labiatae	Shrub
101	<i>Leucas aepera</i> (Willd)Link	Labiatae	Herb
102	<i>Ocimum basilicum</i> L.	Labiatae	Shrub
103	<i>Ocimum canum</i> Sims in Curtis	Labiatae	Herb
104	<i>Ocimum tenuiflorum</i> L.	Labiatae	Shrub
105	<i>Bougainvillea glabra</i> Choisy in Dc	Nyctaginaceae	Shrub
106	<i>Boerhaavia diffusa</i> L.Hook.	Nyctaginaceae	Herb
107	<i>Foeniculum vulgare</i> Mill in Curtis	Apiaceae	Herb
108	<i>Achyranthes aspera</i> L.	Amaranthaceae	Shrub
109	<i>Aerva lanata</i> (L.)Juss	Amaranthaceae	Herb
110	<i>Aerva tomentosa</i> Forsskal	Amaranthaceae	Shrub
111	<i>Amaranthus spinosus</i> L.	Amaranthaceae	Herb
112	<i>Amaranthus viridis</i> L.	Amaranthaceae	Herb
113	<i>Celosia argentea</i> L.	Amaranthaceae	Herb
114	<i>Celosia cristata</i> (L.) Schinz in Engl	Amaranthaceae	Shrub
115	<i>Digera muricata</i> (L.)C	Amaranthaceae	Herb
116	<i>Gompherna decumbens</i> auct.non Jacq.	Amaranthaceae	Herb
117	<i>Gompherna globosa</i> L.	Amaranthaceae	Herb
118	<i>Pupalia lappacea</i> (L.)A.L.Juss.	Amaranthaceae	Herb
119	<i>Acalypha indica</i> (L.)	Euphorbiaceae	Shrub
120	<i>Acalypha fruticosa</i> Forsskal	Euphorbiaceae	Shrub
121	<i>Euphorbia hirta</i> L.	Euphorbiaceae	Herb
122	<i>Euphorbia prostrata</i> Aiton	Euphorbiaceae	Herb
123	<i>Jatropha glandulifera</i> (Roxb)	Euphorbiaceae	Shrub
124	<i>Phyllanthus acidus</i> (L.) Skeels	Euphorbiaceae	Tree
125	<i>Phyllanthus emblica</i> L.	Euphorbiaceae	Tree
126	<i>Commelina benghalensis</i> L	Commelinaceae	Herb
127	<i>Cyanotis axillaris</i> Roem.& Sch	Commelinaceae	Shrub
128	<i>Kyllinga triceps</i> Rottb	Cyperaceae	Herb

129	<i>Andropogon pumilus</i> Roxb	Gramineae	Herb
130	<i>Aristida funiculata</i> Trin & Rup	Gramineae	Herb
131	<i>Aristida setacea</i> Retz	Gramineae	Herb
132	<i>Cenchrus ciliaris</i> L.Mant	Gramineae	Herb
133	<i>Chloris wightiana</i> Nees,Hook	Gramineae	Herb
134	<i>Cynodon dactylon</i> (L.)Pers	Gramineae	Herb
135	<i>Dactylocteniu aegyptium</i> L.	Gramineae	Herb
136	<i>Echinochola colona</i> (L.)Link	Gramineae	Herb
137	<i>Eragrotis aspera</i> (Jacq.)Nees	Gramineae	Herb
138	<i>Oryza sativa</i> L.	Gramineae	Herb
139	<i>Perotis indica</i> (L.)Kuntze	Gramineae	He
140	<i>Pseudanthistiria heteroclita</i> Hook.	Gramineae	Herb
141	<i>Sorghum vulgare</i> (L.)Pers	Gramineae	Herb
142	<i>Setaria pumila</i> (Poirer) Roemer & Schultes	Gramineae	Herb
143	<i>Zea mays</i> L.	Gramineae	Herb

**Table 2:** IUCN Status of the plant species of Arunachalapuram Village

S. No	Name of the plant species	Status
1.	<i>Centipeda minima</i>	Least concern Ver 3.1
2.	<i>Aeschynomene aspera</i>	Least concern Ver 3.1
3.	<i>Punica granatum</i>	Least concern Ver 3.1
4.	<i>Nerium oleander</i>	Least concern Ver 3.1
5.	<i>Kyllinga triceps</i>	Least concern Ver 3.1

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