



**GOVERNMENT OF PUDUCHERRY
MAHATMA GANDHI GOVERNMENT ARTS
COLLEGE, MAHE**



(Affiliated to Pondicherry University & Accredited (Second Cycle) with **B** grade by NAAC)

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**Criteria 7
Institutional Values and Best
Practices**



**Supporting documents
for
Criterion 7**

**7.1.2 Environmental Consciousness and
Sustainability and
Divyangjan friendly initiatives**



**STUDIES ON THE FLORA & FAUNA OF MAHATMA GANDHI GOVT.
ARTS COLLEGE CAMPUS, MAHE, U.T. OF PUDUCHERRY**

A REPORT



MARCH 14, 2024

MAHATMA GANDHI GOVERNMENT ARTS COLLEGE, MAHE
Union Territory of Puducherry

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FLORA OF MAHATMA GANDHI GOVERNMENT ARTS COLLEGE, MAHE

The study on the tree wealth of Mahatma Gandhi Govt. Arts College campus, revealed the occurrence of 69 taxa belonging to 61 genera and 28 families (**Table - 1**). Of these, 61 species belong to dicotyledons, 4 to monocotyledons and 4 to gymnosperms (**Table - 2**). The percentage distribution of tree species is depicted in **Figure 1**. The dominant families include Caesalpiniaceae and Moraceae with 8 species followed by Sapotaceae and Mimosaceae with 5 species, Arecaceae and Euphorbiaceae with 4 species (**Table - 3**). Among the 69 taxa, 23 are exotics (**Table 4**), 39 are medicinal (**Table 5**), 15 are edible (**Table 7**) and 16 are ornamentals (**Table 8**). Economically important and exotic tree species are depicted in **Figure 2**.

Table - 1 List of Tree Species

Sl. No.	Binomial	Family
1.	<i>Acacia auriculiformis</i> A. Cunn. ex Benth*	Mimosaceae
2.	<i>Adenantha pavonina</i> L.	Fabaceae
3.	<i>Albizia lebbek</i> (L.) Willd.	Fabaceae
4.	<i>Alstonia scholaris</i> (L.) R. Br.	Apocynaceae
5.	<i>Anacardium occidentale</i> L.	Anacardiaceae
6.	<i>Araucaria cookii</i> R. Br. ex Endl.	Araucariaceae
7.	<i>Artocarpus heterophyllus</i> Lam.	Moraceae
8.	<i>Artocarpus hirsutus</i> Lam.	Moraceae
9.	<i>Azadirachta indica</i> L.	Meliaceae
10.	<i>Bauhinia purpurea</i> L.	Caesalpiniaceae
11.	<i>Bombax ceiba</i> L.	Bombacaceae
12.	<i>Briedelia retusa</i> (L.) Spreng.	Euphorbiaceae
13.	<i>Caesalpinia sappan</i> L.	Caesalpiniaceae
14.	<i>Calamus thwaitesii</i> Becc.	Arecaceae
15.	<i>Carallia brachiata</i> (Lour.) Merr.*	Rhizophoraceae
16.	<i>Caryota urens</i> L.*	Arecaceae
17.	<i>Cassia fistula</i> L.	Caesalpiniaceae
18.	<i>Casuarina litorea</i> L.*	Casuarinaceae
19.	<i>Ceiba pentandra</i> (L.) Gaertn.	Malvaceae

20.	<i>Chrysophyllum roxburghii</i> G. Don	Sapotaceae
21.	<i>Cinnamomum verum</i> Presl.	Lauraceae
22.	<i>Citrus X meyeri</i>	Rutaceae
23.	<i>Citrus limon</i> (L.) Burm.f.	Rutaceae
24.	<i>Cocos nucifera</i> L.	Arecaceae
25.	<i>Cycas circinalis</i> L.	Cycadaceae
26.	<i>Cycas revoluta</i> Thunb.	Cycadaceae
27.	<i>Delonix regia</i> (Boj. ex Hook.) Rafin.	Caesalpiaceae
28.	<i>Erythrina variegata</i> L.*	Fabaceae
29.	<i>Ficus benghalensis</i> L.	Moraceae
30.	<i>Ficus exasperata</i> Vahl	Moraceae
31.	<i>Ficus hispida</i> L.f.	Moraceae
32.	<i>Ficus religiosa</i> L.	Moraceae
33.	<i>Ficus tinctoria</i> Forst.	Moraceae
34.	<i>Ficus tsihela</i> Burm.f.	Moraceae
35.	<i>Helicteres isora</i> L.	Sterculiaceae
36.	<i>Holigarna arnottiana</i> Hook. f.	Anacardiaceae
37.	<i>Kleinhovia hospita</i> L.	Malvaceae
38.	<i>Leucaena leucocephala</i> (Lam.) de Wit*	Fabaceae
39.	<i>Macaranga peltata</i> (Roxb.) Muell.-Arg.*	Euphorbiaceae
40.	<i>Madhuca longifolia</i> (Koenig) J.F. Macbr.	Sapotaceae
41.	<i>Mallotus philippensis</i> (Lam.) Muell.-Arg.*	Euphorbiaceae
42.	<i>Mangifera indica</i> L.	Anacardiaceae
43.	<i>Manilkara zapota</i> (L.) P. Royen	Sapotaceae
44.	<i>Mimusops elengi</i> L.	Sapotaceae
45.	<i>Morinda citrifolia</i> L.	Rubiaceae
46.	<i>Moringa pterygosprma</i> Gaertn.	Moringaceae
47.	<i>Nageia wallichiana</i> (Pers.) O. Ktze	Podocarpaceae
48.	<i>Olea dioica</i> Roxb.*	Oleaceae
49.	<i>Peltophorum pterocarpum</i> (DC.) Backer ex Heyne*	Fabaceae
50.	<i>Phyllanthus emblica</i> L.	Euphorbiaceae
51.	<i>Plumeria rubra</i> L.	Apocynaceae
52.	<i>Polyalthia longifolia</i> (Sonner) Thw.	Annonaceae

53.	<i>Pongamia pinnata</i> (L.) Pierre	Fabaceae
54.	<i>Pouteria campechiana</i> (Kunth) Baehni.	Sapotaceae
55.	<i>Premna latifolia</i> Roxb.	Lamiaceae
56.	<i>Psidium guajava</i> L.	Myrtaceae
57.	<i>Pterocarpus marsupium</i> Roxb.	Fabaceae
58.	<i>Roystonea regia</i> (Kunth) O.F. Cook	Arecaceae
59.	<i>Samanea saman</i> (Jacq.) Merr.	Fabaceae
60.	<i>Saraca asoca</i> (Roxb.) de Wilde	Fabaceae
61.	<i>Senna siamea</i> (Lam.) Irwin & Barneby	Caesalpiaceae
62.	<i>Simarouba glauca</i> DC.	Simaroubaceae
63.	<i>Spathodea campanulata</i> P. Beauv.	Bignoniaceae
64.	<i>Swietenia macrophylla</i> King*	Meliaceae
65.	<i>Syzygium cumini</i> (L.) Skeels	Myrtaceae
66.	<i>Tamarindus indica</i> L.	Fabaceae
67.	<i>Tectona grandis</i> L.f	Verbenaceae
68.	<i>Terminalia catappa</i> L.	Combretaceae
69.	<i>Zanthoxylum rhetsa</i> (Roxb.) DC.	Rutaceae

* Dominant species

Table - 2 Floristic Analysis

Group	Species	Genera	Family
Dicotyledons	61	54	24
Monocotyledons	4	4	1
Gymnosperms	4	3	3
Total	69	61	28

Figure 1 - Percentage Distribution of Tree species

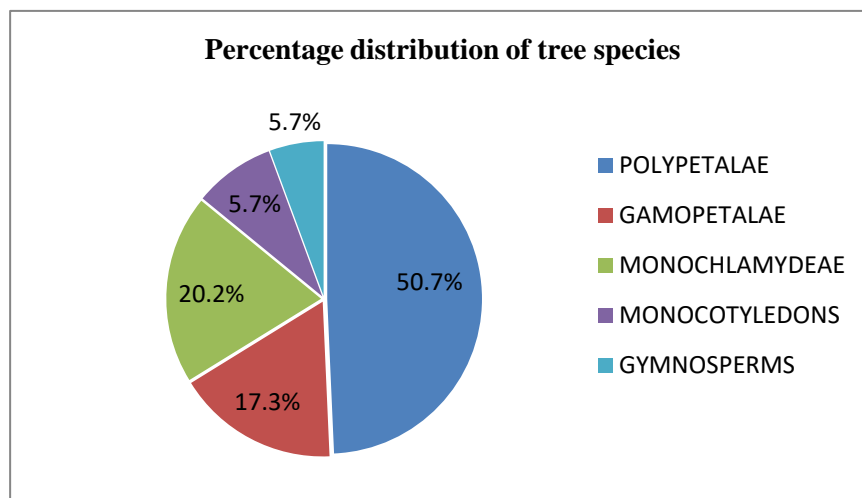
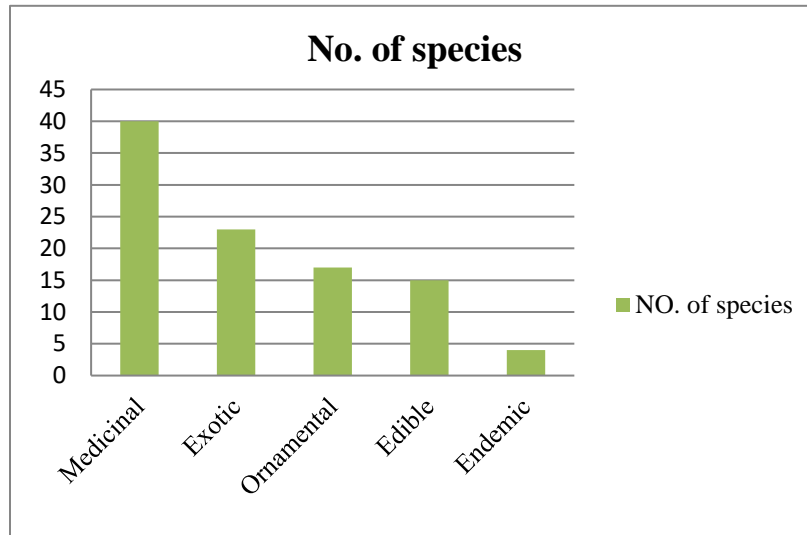


Table 3 - List of Dominant families

S. No.	Dominant families	Number of species	Number of genera
1	Caesalpinaceae	8	8
2	Moraceae	8	2
3	Sapotaceae	5	5
4	Mimosaceae	5	5
5	Euphorbiaceae	4	4
6	Arecaceae	4	3
7	Anacardiaceae	3	3
8	Fabaceae	3	3
9	Rutaceae	3	2

Figure 2. Economically Important and Exotic tree species



There are 23 species of exotics in MGGAC campus. Of these 10 species are from Tropical America, followed by South East Asia with 4 species. The distributional analyses of exotic species are depicted in **Table - 4**.

Table - 4 List of Exotic Tree species

S. No.	Binomial	Nativity
1	<i>Acacia auriculiformis</i> A. Cunn. ex Benth.	Australia
2	<i>Anacardium occidentale</i> L.	T. America
3	<i>Araucaria cookii</i> R. Br. ex Endl.	New Caledonia
4	<i>Bauhinia purpurea</i> L.	South East Asia
5	<i>Casuarina litorea</i> L.	Australia

6	<i>Ceiba pentandra</i> (L.) Gaertn.	America
7	<i>Citrus limon</i> (L.) Burm.f.	South East Asia
8	<i>Cycas revoluta</i>	East Asia
9	<i>Delonix regia</i> (Boj. ex Hook.) Rafin.	Madagascar
10	<i>Kleinhovia hospita</i> L.	Malesia
11	<i>Leucaena leucocephala</i> (Lam.) de Wit.	T. America
12	<i>Manilkara zapota</i> (L.) P. Royer	T. America
13	<i>Peltophorum pterocarpum</i> (DC.) Backer ex Heyne	Sri Lanka
14	<i>Plumeria rubra</i> L.	T. America
15	<i>Polyalthia longifoia</i> (Sonn) Thwaites	Sri Lanka
16	<i>Pouteria campechiana</i> (Kunth) Baehni	T. America
17	<i>Psidium guajava</i> L.	T. America
18	<i>Roystonea regia</i> (Kunth) O.F. Cook	T. America
19	<i>Senna siamea</i> (Lam.) Irvin & Barneby	South East Asia
20	<i>Samanea saman</i> (Jacq) Merr.	T. America
21	<i>Spathodea companulata</i> P. Beauv	T. Africa
22	<i>Swietenia macrophylla</i> King	T. America
23	<i>Tamarindus indica</i> L.	T. Africa

Table – 5 Distributional Analysis of Exotic Species

Sl. No.	Nativity	Number of species	%
1.	Tropical America	10	43.47
2.	South East Asia	4	17.39
3.	Australia	2	8.67
4.	Tropical Africa	2	8.67
5.	Sri Lanka	2	8.67
6.	New Caledonia	1	4.34
7.	Madagascar	1	4.34
8.	Malesia	1	4.34

From the above **table 5** it is evident that 10 species are from Tropical America (43.47%) followed by 4 species are from South East Asia (17.39%). Australian, Tropical Africa and Sri Lanka constitute 2 species each (8.67%). New Caledonia, Madagascar and Malesia with 1 species (4.34%).

Table - 6 List of Medicinal Trees

Sl. No.	Binomial
1	<i>Adenanthera pavonina</i> L.
2	<i>Albizia lebbek</i> (L.) Willd.

3	<i>Alstonea scholaris</i> (L.) R. Br.
4.	<i>Anacardium occidentale</i> L.
5.	<i>Artocarpus heterophyllus</i> Lam.
6.	<i>Azadirachta indica</i> L.
7	<i>Bombax ceiba</i> L.
8.	<i>Briedelia retusa</i> (L.) Spreng.
9.	<i>Caesalpinia sappan</i> L.
10.	<i>Cassia fistula</i> L.
11.	<i>Cinnamomum verum</i> J. Presl
12.	<i>Citrus limon</i> (L.) Burm.f.
13.	<i>Cocos nucifera</i> L.
14.	<i>Cycas circinalis</i> L.
15.	<i>Erythrina variegata</i> L.
16.	<i>Ficus religiosa</i> L.
17.	<i>Ficus benghalensis</i> L.
18.	<i>Helicteris isora</i> L.
19.	<i>Holigarna arnottiana</i> Hook.f.
20.	<i>Kleinhovia hospita</i> L.
21.	<i>Mcaranga peltata</i> (Roxb.) Muell.-Arg.
22.	<i>Madhuca longifolia</i> (Koen.) Macbr.
23.	<i>Mallotus philippensis</i> (Lam.) Muell.-Arg.
24.	<i>Mangifera indica</i> L.
25.	<i>Mimusops elengi</i> L.
26.	<i>Moringa pterigosperma</i> Gaertn.
27.	<i>Phyllanthus emblica</i> L.
28.	<i>Plumeria rubra</i> L.
29.	<i>Premna latifolia</i> Roxb.
30.	<i>Psidium guajava</i> L.
31.	<i>Pterocarpus marsupium</i> Roxb.
32.	<i>Saraca asoca</i> (Roxb.) de Wilde
33.	<i>Simarouba glauca</i> DC.
34.	<i>Swietenia macrophylla</i> King
35.	<i>Syzygium cumini</i> (L.) Skeels
36.	<i>Tamarindus indica</i> L.
37.	<i>Tectona grandis</i> L.f.
38.	<i>Terminalia catappa</i> L.
39.	<i>Zanthoxylum rhetsa</i> (Roxb.) DC.

Table - 7 List of Edible Species

Sl. No.	Binomial
1.	<i>Anacardium occidentale</i> L.
2.	<i>Artocarpus heterophyllus</i> Lam.
3.	<i>Artocarpus hirtusutus</i> Lam.
4.	<i>Citrus limon</i> (L.) Burm.f.

5.	<i>Citrus X meyeri</i>
6.	<i>Cocos nucifera</i> L.
7.	<i>Cycas circinalis</i> L.
8.	<i>Mangifera indica</i> L.
9.	<i>Manilkara zapota</i> (L.) P. Royen
10.	<i>Moringa pterigosperma</i> Gaertn.
11.	<i>Phyllanthus emblica</i> L.
12.	<i>Pouteria campechiana</i> (Kunth) Baehni
13.	<i>Psidium guajava</i> L.
14.	<i>Syzygium cumini</i> (L.) Skeels
15.	<i>Tamarindus indica</i> L.

Table - 8 List of Ornamental Trees

Sl. No.	Binomial
1.	<i>Acacia auriculiformis</i> A. Cunn. ex Benth.
2.	<i>Alstonia scholars</i> (L.) Willd.
3.	<i>Araucaria cookie</i> R. Br. ex Endl.
4.	<i>Bauhinia purpurea</i> L.
5.	<i>Cassia fistula</i> L.
6.	<i>Cycas revoluta</i> L.
7.	<i>Delonix regia</i> (Boj. ex Hook.) Rafin.
8.	<i>Helicteris isora</i> L.
9.	<i>Peltophorum pterocarpum</i> (DC.) Backer ex Heyne
10.	<i>Plumeria rubra</i> L.
11.	<i>Polyalthia longifolia</i> (Sonner) Thw.
12.	<i>Roystonea regia</i> (H.B.K.) O.F. Cook
13.	<i>Saraca asoca</i> (Roxb.) de Wilde
14.	<i>Senna siamea</i> (Lam.) Irvin & Barneby
15.	<i>Samanea saman</i> (Jacq.) Merr.
16.	<i>Spathodea companulata</i> P. Beauv.

The study area exhibits four endemic tree species (**Table 9**), of these *Artocarpus hirsutus* is endemic to Western Ghats regions of Maharashtra, Karnataka, Tamil Nadu and Kerala. *Holigarna arnottiana* and *Mallotus philippensis* is endemic to Western Ghats regions of Tamil Nadu and Kerala.

Table - 9 List of Endemic Trees

Sl. No.	Binomial
1.	<i>Artocarpus hirsutus</i> Lam.
2.	<i>Holigarna arnottiana</i> Hook.f.
3.	<i>Mallotus philippensis</i> (Lam.) Muell.-Arg.

During the present study nine species are added to the tree wealth of Mahe region (**Table - 10**). An analysis of the present data revealed that almost 50% of the tree species of Mahe occur in Mahatma Gandhi Govt. Arts College campus (**Table - 11**).

Table - 10 List of trees that are addition to Mahe

Sl. No.	Binomial
1.	<i>Ceiba pentandra</i> (L.) Gaertn.
2.	<i>Citrus X meyeri</i>
3.	<i>Cycas revoluta</i> Thunb.
4.	<i>Calamus thwaitesii</i> Becc.
5.	<i>Ficus tinctoria</i> Forst.
6.	<i>Ficus tsjahela</i> Burm.f.
7.	<i>Nageia wallichiana</i> (Pers.) O. Ktze
8.	<i>Pterocarpus marsupium</i> Roxb.
9.	<i>Simarouba glauca</i> DC.

Table - 11 Comparative account of trees - (Mahe and MGGAC campus)

Group	Mahe			MGGAC		
	Species	Genera	Family	Species	Genera	Family
Dicotyledons	128	104	45	61	54	24
Monocotyledons	8	8	2	4	4	1
Gymnosperms	2	2	2	4	3	3
Total	138	114	49	69	61	28

Phytosociological studies of Trees in Mahatma Gandhi Govt. College Campus

Phytosociological studies of the campus has been undertaken to assess the importance of various tree species in the community. During a general inventorization of the tree wealth of the

college campus, extending to an area of 12 acres (**Figure 1**) 69 species belonging to 61 genera and 28 families have been identified.

For quantitative estimation of various attributes for phytosociological studies, belt transects were laid at various locations in the campus. As theoretical laying of belt transects were found difficult in the campus owing to terrain characteristics, a total of sixteen transects, each with a size of 20 sq.m. were laid randomly in the field. The presence and numerical strength of each species falling in each transect were worked out and depicted in **Table 12**. Frequency, density, abundance and Importance Value Index (IVI) were worked out following the method proposed by Curtis (1959). For calculating IVI, values of relative frequency, relative density and relative abundance were summed up (**Table 13**). This index was used to determine the overall importance of each tree species in the community structure (**Table 14**).

Table - 12 Details of Belt transects laid

No	Name of species	Transect number															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	<i>Anacardium occidentale</i>	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
2	<i>Acacia auriculiformis</i>	1	3	2	4	1	1	1	2	2	1	-	1	1	-	-	-
3	<i>Briedelia retusa</i>	1	1	-	-	-	-	2	-	-	1	-	-	-	-	-	-
4	<i>Caryota urens</i>	2	-	3	4	6	3	2	6	1	3	5	-	-	-	-	3
5	<i>Chrysophyllum roxburghi</i>	2	-	-	-	2	-	1	-	1	-	-	-	-	-	-	-
6	<i>Carallia brachiata</i>	1	-	-	-	3	1	1	1	1	-	-	-	-	-	-	-
7	<i>Olea dioica</i>	4	-	3	4	5	6	3	-	-	-	2	-	-	-	1	1
8	<i>Macaranga peltata</i>	1	1	-	-	-	-	2	-	1	-	1	-	-	-	1	-
9	<i>Holigarna arnottiana</i>	1	-	-	1	-	1	1	-	1	-	-	-	-	-	-	1
10	<i>Peltophorum Pterocarpum</i>	-	-	1	10	-	1	-	-	-	-	-	-	-	-	-	-
11	<i>Erythrina variegata</i>	-	-	-	3	10	-	-	1	-	1	1	-	-	-	-	-
12	<i>Syzygium cumini</i>	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	1
13	<i>Mallotus philippensis</i>	-	-	-	-	3	2	-	1	8	7	6	-	-	-	1	3
14	<i>Cocos nucifera</i>	-	-	-	-	-	1	-	-	-	-	-	-	2	1	-	-
15	<i>Leucaena leucocephala</i>	-	-	-	-	-	-	6	-	-	-	-	-	-	-	1	-
16	<i>Ficus hispida</i>	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-
17	<i>Ficus tsjahela</i>	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-

18	<i>Adenanthera pavonia</i>	-	-	-	-	-	-	-	3	-	2	-	-	-	-	-	-
19	<i>Swietenia macrophylla</i>	-	-	-	-	-	-	-	-	2	4	11	-	-	-	-	6
20	<i>Madhuca longifolia</i>	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-
21	<i>Artocarpus heterophyllus</i>	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
22	<i>Bombax ceiba</i>	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
23	<i>Spathodea campanulata</i>	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-
24	<i>Senna siamea</i>	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-
25	<i>Casuarina litorea</i>	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-
26	<i>Polyalthia longifolia</i>	-	-	-	-	-	-	-	-	-	-	-	2	1	-	2	-
27	<i>Roystonea regia</i>	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
28	<i>Citrus limon</i>	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
29	<i>Moringa oleifera</i>	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
30	<i>Tectona grandis</i>	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-
31	<i>Delonix regia</i>	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
32	<i>Artocarpus hirsuta</i>	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
33	<i>Albizia lebeck</i>	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
34	<i>Alstonia scholaris</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
35	<i>Phyllanthus emblica</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
36	<i>Psidium guajava</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
37	<i>Tamarindus indica</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
38	<i>Terminalia Catappa</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
39	<i>Ficus religiosa</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-

Table – 13 Results of Importance Value Index (IVI)

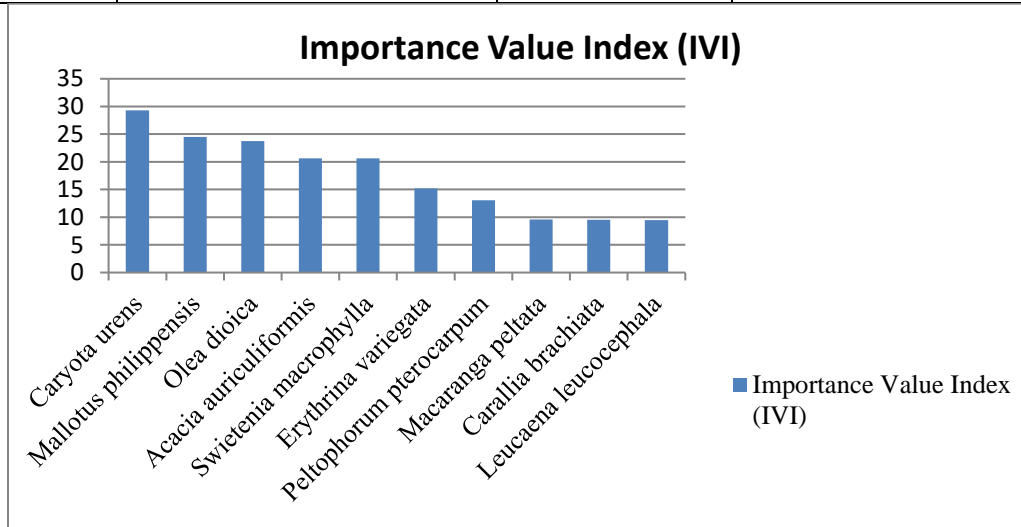
No	Name of species	F	RF	D	RD	A	RA	IVI	Remark
1	<i>Anacardium occidentale</i>	18.75	2.63	0.18	1.13	1	1.44	5.18	
2	<i>Acacia auriculiformis</i>	75	10.52	1.25	7.73	1.66	2.39	20.64	
3	<i>Briedelia retusa</i>	25	3.50	0.31	1.91	1.25	1.80	7.21	
4	<i>Caryota urens</i>	68.75	9.64	2.37	14.6	3.45	4.97	29.27	
5	<i>Chrysophyllum roxburghi</i>	25	3.50	0.37	2.28	1.5	2.16	7.94	
6	<i>Carallia brachiata</i>	37.5	5.26	0.5	3.09	1.33	1.91	9.54	

7	<i>Olea dioica</i>	56.25	7.89	1.81	11.2	3.22	4.64	23.73	
8	<i>Macaranga peltata</i>	37.5	5.26	0.43	2.66	1.16	1.67	9.59	
9	<i>Holigarna arnottiana</i>	37.5	5.26	0.37	2.28	1	1.44	8.98	
10	<i>Peltophorum Pterocarpum</i>	18.75	2.63	0.75	4.64	4	5.76	13.03	
11	<i>Erythrina variegata</i>	31.25	4.38	1	6.18	3.2	4.61	15.17	
12	<i>Syzygium cumini</i>	18.75	2.63	0.18	1.11	1	1.44	5.18	
13	<i>Mallotus philippensis</i>	50	7.01	1.93	11.94	3.87	5.57	24.52	
14	<i>Cocos nucifera</i>	18.75	2.63	0.25	1.54	1.33	1.91	6.08	
15	<i>Leucena leucocephala</i>	12.5	1.75	0.43	2.66	3.5	1.04	9.45	
16	<i>Ficus hispida</i>	6.25	0.87	0.18	1.11	3	4.32	6.30	
17	<i>Ficus tsjahela</i>	6.25	0.87	0.06	0.37	1	1.44	2.68	
18	<i>Adenantha pavonia</i>	12.5	1.75	0.31	1.91	2.5	3.60	7.26	
19	<i>Swietenia macrophylla</i>	25	3.50	1.43	8.84	5.75	8.28	20.64	
20	<i>Madhuca longifolia</i>	12.5	1.75	0.12	0.74	1	1.44	3.93	
21	<i>Artocarpus heterophyllus</i>	12.5	1.75	0.12	0.74	1	1.44	3.93	
22	<i>Bombax ceiba</i>	6.25	0.87	0.06	0.37	1	1.44	2.68	
23	<i>Spathodea campanulata</i>	6.25	0.87	0.12	0.74	2	2.88	4.16	
24	<i>Senna siamea</i>	12.5	1.75	0.12	0.74	1	1.44	3.93	
25	<i>Casuarina Equisetifolia</i>	6.25	0.87	0.18	1.11	3	4.32	6.30	
26	<i>Polyalthia longifolia</i>	18.75	2.63	0.31	1.91	1.66	2.39	6.93	
27	<i>Roystonea regia</i>	6.25	0.87	0.06	0.37	1	1.44	2.68	
28	<i>Citrus limon</i>	6.25	0.87	0.06	0.37	1	1.44	2.68	
29	<i>Moringa oleifera</i>	6.25	0.87	0.06	0.37	1	1.44	3.05	
30	<i>Tectona grandis</i>	12.5	1,75	0.12	0.74	1	1.44	3.93	
31	<i>Delonix regia</i>	12.5	1.75	0.12	0.74	1	1.44	3.56	
32	<i>Artocarpus hirsuta</i>	6.25	0.87	0.06	0.37	1	1.44	2.68	
33	<i>Albizia lebeck</i>	6.25	0.87	0,12	0,74	2	2.88	4.49	
34	<i>Alstonia scholaris</i>	6.25	0.87	0.06	0.37	1	1.44	2.68	
35	<i>Phyllanthus emblica</i>	6.25	0.87	0,06	0,37	1	1.44	2.68	
36	<i>Psidium guajava</i>	6.25	0.87	0.06	0.37	1	1.44	2.68	
37	<i>Tamarindus indica</i>	12.5	1.75	0.12	0.74	1	2	4.93	
38	<i>Terminalia catappa</i>	6.25	0.87	0.06	0.37	1	1.44	2.68	

39	<i>Ficus religiosa</i>	6.25	0.87	0.06	0.37	1	1.44	2.68	
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Table - 14 Dominant trees in the campus

Sl. No.	Name of species	Family	Importance Value Index (IVI)
1	<i>Caryota urens</i>	Arecaceae	29.27
2	<i>Mallotus philippensis</i>	Euphorbiaceae	24.52
3	<i>Olea dioica</i>	Oleaceae	23.73
4	<i>Acacia auriculiformis</i>	Mimosaceae	20.64
5	<i>Swietenia macrophylla</i>	Meliaceae	20.64
6	<i>Erythrina variegata</i>	Fabaceae	15.17
7	<i>Peltophorum pterocarpum</i>	Caesalpiniaceae	13.03
8	<i>Macaranga peltata</i>	Euphorbiaceae	9.59
9	<i>Carallia brachiata</i>	Rhizophoraceae	9.54
10	<i>Leucaena leucocephala</i>	Mimosaceae	9.45



The data confirms with the visual observations on the diversity of trees.

Threats to tree diversity:

Threats to the tree diversity in any ecosystem normally include:

- Habitat modification, fragmentation, shrinkage
- change in land use pattern
- clearing of natural habitats for construction and other developmental activities

- removal of trees for timber, fire wood and other human requirements
- invasion of alien species
- natural calamities

The study area is not affected due to many of these factors. This is because the developmental activities in the form of construction of buildings have not been occurred in the recent years. Hence the diversity of tree species in the campus is fairly good. One of the threats to the native flora is the occurrence of exotic species. *Acacia auriculiformis* is a dominant exotic species occurring in the campus. Removal of tree cover is not common. However, trees that pose threats to the buildings and human lives are removed. During heavy rains some of the trees get uprooted and some may be dried during extreme summer. Sometimes trees are destroyed due to termite attack or infestation by parasites especially *Loranthus (Dendrophthoe falcata)*. Hence there are no serious threats to the diversity of tree species in the campus.

Conservation Strategies

Conserving biodiversity is a global concern. It is not an issue confined to one particular nation or community. Several international treaties and agreements are in place in the attempt to strengthen international participation and commitment towards conserving biodiversity. The national mission for a "Green India" is one of the eight national missions under Indian National Action Plan on climate change and its main focus is on increasing the forest cover and density. In this context efforts need to be taken to improve the plant cover of local areas that will in turn help in abating some of the ill effects of global warming and climate change.

Conservation of tree diversity in MGGAC campus can be done by planting more saplings of flowering and fruiting trees. While selecting the species preference may be given to native species and are suitable to the terrain. Efforts need to be taken to introduce tree species which are growing in other parts of Mahe. It is suggested to introduce tree species such as *Oroxylum indicum*, *Spondias pinnata*, *Careya arborea*, *Butea monosperma*, *Vateria indica*, *Myristica fragrens*, *Annona squamosa*, *Annona reticulata*, *Annona muricata*, *Aegle marmelos*, *Thespesia populnea*, *Lannea coromandelica*, *Dalbergia latifolia*, *Terminalia bellirica*, *Lagerstroemia speciosa*, *Michelia champaca*, *Couropita guianensis*, *Hydnocarpus pentandrus*, *Sterculia foetida*, *Strychnos nux-vomica*, *Santalum album*, *Sapindus trifoliatus*, *Murraya koenigii*, *Ziziphus mauritiana*, *Millingtonia hortensis*, *Vitex negundo* etc. whose population is very less in the entire Mahe region. This will not only enrich the tree diversity of the campus but also will serve as *ex situ* conservation

site for the trees of Mahe region. It will act as a living museum of trees. The menace of parasites and pathogens need to be controlled by regular weeding and application of biopesticides.

Plate X - Lower forms (Pteridophytes & Bryophytes)



Pteridophytes: a: *Adiantum philippense* L., b: *Bolbitis prolifera* (Bory) C. Chr. & Tardieu-Blot, c: *Ceratopteris thalictroides* (L.) Brong., d: *Drynaria quercifolia* (L.) J. Sm., e: *Lygodium flexuosum* (L.) Sw., f: *Marsilea minuta* L., g: *Salvinia molesta* Mitch., h: *Stenochlaena palustris* (Burm.f.) Beddome, i: *Selaginella delicatula* (Desv.) Alston. **Bryophytes:** j: *Funaria hygrometrica* Hedwig, k: *Cyathodium cavernarum* Kunze, l: *Octoblepharum albidum* Hedwig.

FAUNA OF MAHATMA GANDHI GOVERNMENT ARTS COLLEGE, MAHE

The campus of Mahatma Gandhi Government Arts College, Mahe, is home to a diverse array of flora and fauna, reflecting the ecological richness of the Malabar region and the institution's commitment to environmental conservation. This biodiversity is significantly influenced by the unique climatic conditions of the Malabar Coast, characterized by high humidity, abundant rainfall during the monsoon season, and warm temperatures throughout the year, creating an ideal habitat for a wide range of species. Additionally, the hilly terrain of Mahe, interspersed with lush vegetation and natural water bodies, further supports this diversity by offering a variety of microhabitats for both flora and fauna to thrive.

As part of the regional biodiversity register initiative, the Department of Zoology conducted an in-depth study of the faunal diversity within the Mahe region. The findings reveal a remarkable representation of both invertebrate and vertebrate species. Among invertebrates, the campus boasts an impressive variety, including butterflies, dragonflies, ants, grasshoppers, and beetles, all of which play crucial roles in pollination, nutrient recycling, and maintaining ecological balance. The vertebrate groups are equally diverse, encompassing species of fish, amphibians, reptiles, birds, and mammals, many of which are native to the Western Ghats—a biodiversity hotspot located in close proximity to Mahe.

The hilly terrain and green cover of the campus not only provide shelter for terrestrial species but also create a conducive environment for arboreal and aquatic organisms. Bird species, in particular, benefit from the combination of dense vegetation and open spaces, making the campus a haven for avian diversity. Mammals and reptiles find refuge in the undergrowth and natural crevices of the terrain, while the presence of streams and ponds supports a thriving population of amphibians and aquatic fauna.

This extensive catalog of faunal diversity highlights the ecological wealth of the campus and its surroundings, offering invaluable insights for researchers, students, and biodiversity enthusiasts. Photographs documenting the diverse animal life further enrich the study, serving as a visual testament to the vibrant biodiversity of the region. These findings underscore the importance of preserving the natural habitats within the campus to maintain and enhance its ecological integrity for future generations.

Common Butterflies of Mahe region

കൃഷ്ണശലഭം Blue Mormon (*Papilio polymnestor*).



പൂച്ചക്കണ്ണി Banded Catseye (*Ziphaeta zitis*)



അഗ്നിവർണ്ണൻ Baronet. (*Euthalia nais*)



സുവർണ്ണ ഓക്കിലശലഭം *Doleschallia bisaltide*.



നീലനീലി Blue Pansy (*Junonia orithya*)



നീലക്കടുവ Blue Tiger (*Tirumala limniace*)



വെള്ളച്ചാത്തൻ Grass demon butterfly (*Udaspes folus*)



Common Butterflies of Mahe region

അരളിശലഭം Common Crow
(*Euploea core*)



കനിത്തോഴൻ Baron
(*Euthalia aconthea*)



ആവണച്ചോപ്പൻ Common Castor
(*Ariadne merione*)



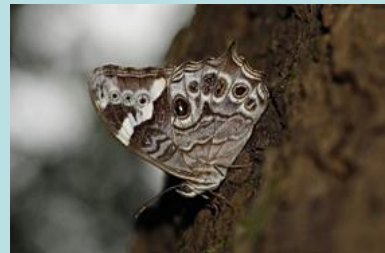
Common Bushbrown
(*Mycalesis perseus*)



പുലിത്തെയ്യൻ Common Leopard
(*Phalanta phalantha*)



മലന്തവിടൻ Common Treebrown
(*Lethe rohria*)



Common Butterflies of Mahe region

ഓലക്കണ്ടൻ Common Palmfly
(*Elymnias hypermnestra*)



വിലാസിനി Indian Jezebel
(*Delias eucharis*)



മഞ്ഞത്തകരമുത്തി Common Emigrant
(*Catopsilia pomona*)



നാടോടി Common Wanderer
(*Pareronia valeria*)



ഇരുളൻ നാടോടി Dark Wanderer
(*Pareronia ceylanica*)



കുഞ്ഞിപ്പാപ്പാത്തി Small Grass Yellow
(*Eurema brigitta*)



Common butterflies of our region

പുളിവാലൻ Malabar Banded Swallowtail
(*Papilio liomedon*)



വരയൻ ചാത്തൻ Common Banded Demon.
(*Notocrypta paralytos*)



തകരമുത്തി Mottled Emigrant
(*Catopsilia pyranthe*)



പൊന്തച്ചാടൻ Common Bush Hopper
(*Ampitta dioscorides*)



മഞ്ഞപ്പാപ്പാത്തി
(*Eurema hecabe*)



വെള്ളിലത്തോഴി
(*Modusa procris*)



Dragon flies of Mahe

പാണ്ടൻ വയൽതെയ്യൻ
Urothemis signata



വയൽത്തുമ്പി
(*Crocothemis servilia*)



ചെറുനീലിത്തുമ്പി
Amphialagma parvum



ചെങ്കുപ്പൻ അരുവിയൻ
(*Euphaea fraseri*)



മലയൻ താമരത്തുമ്പി
Paracercion malayanum



നീലക്കണ്ണി ചേരാച്ചിറകൻ
Lestes praemorsus



Common Birds of Mahe region

നാട്ടുമരംകൊത്തി
Black-rumped Flameback
(*Dinopium benghalense tehminae*)



ചിന്നക്കുട്ടുറുവൻ
Small Green Barbet
(*Megalaima viridis*)



ആൽക്കിളി
Malabar Barbet
(*Megalaima rubricapilla malabarica*)



കാക്ക മീൻകൊത്തി
Brown headed / Stork billed Kingfisher
(*Pelargopsis capensis*)



നീലപ്പൊന്മാൻ
River Kingfisher
(*Alcedo atthis*)



Common Birds of Mahe region

നാട്ടുവേലിത്തര
Green Bee Eater
(Merops Orientalis)



നാട്ടുകുയിൽ കരികുയിൽ (ആൺകിളി),
പുളളിക്കുയിൽ (പെൺകിളി),
Asian Koeal (Eudynamys scolopacea)



ചെമ്പോത്ത്
Southern crow pheasant
(Centropus sinensis parroti)



നാട്ടുതര
Manillensis
(Psittacula krameri)



വെള്ളിമൂങ്ങ
Barn Owl (Tyto alba)



കാലൻ കോഴി
Mottled Wood Owl (Strix ocellata)



Common Birds of Mahe region

പുളി നത്ത്
Spotted Owlet
(Athene brama)



അമ്പലപ്രാവ്
Common Pigeon (Columba livia)



അരിപ്രാവ്
Spotted Dove (Spilopelia chinensis)



കുളക്കൊഴി
White-breasted Waterhen
(Amaurornis phoenicurus)



നീലക്കൊഴി
Purple Swampen
(Porphyrio porphyrio)



ചക്കി പരുന്ത്
Black Kite (Milvus migrans Govinda)



Common Birds of Mahe region

കൃഷ്ണപ്പരുന്ത്
Brahminy Kite
(Haliastur indus Indus)



പ്രാപ്പിടിയൻ
Shikra
(Accipiter badius badius)



പനങ്കാക്ക
Indian Roller
(Coracias benghalensis indica)



കരിം പരുന്ത് Black Eagle
Ictinaetus malayensis



കിന്നരി മിൻകാക്ക
Indian Cormorant
(Phalacrocorax fuscicollis)



നീർക്കാക്ക
Great Cormorant
(Phalacrocorax carbo)



Common Birds of Mahe region

വെൺ താലിക്കുരുവി
Lesser Whitethroat
(*Sylvia curruca*)



കരിന്തലയൻ കുരുവി
Orphean Warbler
(*Sylvia hortensis*)



ഇളംപച്ച പൊടിക്കുരുവി
Greenish Warbler
(*Phylloscopus trochiloides*)



ഇരട്ടത്തലച്ചി
Red-whiskered Bulbul
(*Pycnonotus jocosus*)



കറുപ്പൻ തേൻകിളി
Purple Sunbird
(*Cinnyris asiaticus*)



ഓലേഞ്ഞാലി
Rufous Treepie
(*Dendrocitta vagabunda*)



Common Birds of Mahe region

പേനക്കാക്ക, വീട്ടുകാക്ക,
House Crow (*Corvus splendens*)



ബലിക്കാക്ക Jungle Crow
(*Corvus culminates*)



കാക്കത്തമ്പുരാട്ടി
Ashy Drongo (*Dicrurus leucophaeus*)



ചെറുമുണ്ടി Intermediate Egret
(*Mesophoyx intermedia*)



ചെറുകൊച്ചു
Little Bittern (*Ixobrychus minutus*)



Common Birds of Mahe region

കരിമ്പൻ കാടകൊക്ക്
Green Sandpiper (*Tringa ochropus*)



മണ്ണാത്തിപ്പുള്ളി
Oriental Magpie-Robin
(*Copsychus saularis*)



ചായമുണ്ടി Purple Heron
(*Ardea purpurea*)



പുത്താകീരി
Yellow-billed Babbler
(*Turdoides affinis*)



കരിയിലക്കിളി
Jungle Babbler
(*Turdoides striata*)



മൈന Common Myna
(*Acridotheres tristis*)



Snakes of Mahe

അണലി
Daboia russelii



ശംഖുവരയൻ
Bungarus caeruleus



മലമ്പാമ്പ്
Python molurus



ഇന്ത്യൻ ചേര
Ptyas mucosa



നീർക്കോലി
Xenochrophis piscator



വില്ലൂന്നി
Dendrelaphis tristis



പച്ചിലപ്പാമ്പ്
Ahaetulla nasuta



Some important wild animals of Mahe

Varanus



Porcupine



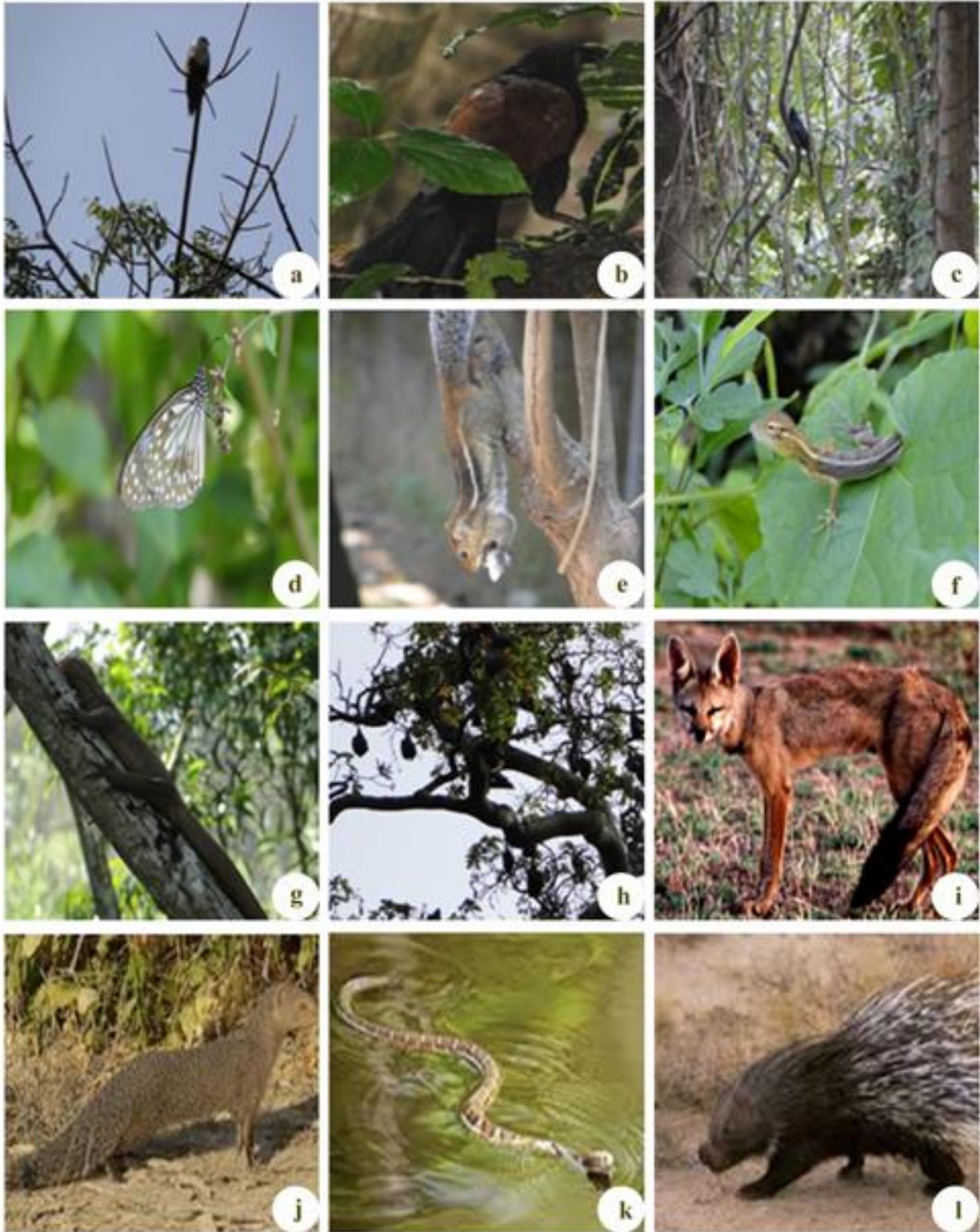
കല്ലുണ്ണി
Paradoxurus hermaphroditus



Vulpes bengalensis



caecilians (ichthyophis, uraeotyphlus)



a: *Haliastur indus*, **b:** *Centropus sinensis*, **c:** *Eudynamys scolopacea*, **d:** Butterfly, **e:** *Funambulus palmarum*, **f:** *Mabuaya carinata*, **g:** *Varanus monitor*, **h:** *Pteropus giganteus*, **i:** *Vulpus bengalensis*, **j:** *Herpestes edwardsii*, **k:** *Nerodia piscator*, **l:** *Hystrix indica*.

Conclusion

Diversity of tree species in the college campus is fairly good. Efforts need to be taken to improve it further by introducing some of the native species which are not there at present. A regular monitoring of the diversity is required to understand the disappearance of species if any. The information on tree diversity and phytosociology generated in the present study can act as a primary database which can help in formulating suitable strategies for improving the tree wealth of the campus. Similarly, the faunal diversity on the campus of Mahatma Gandhi Government Arts College, Mahe, reflects a promising representation of local biodiversity, showcasing a variety of bird species, insects, reptiles, and small mammals that contribute to the ecological balance of the area. However, periodic monitoring is essential to identify any shifts in species composition, particularly the potential decline of native species due to habitat changes or other anthropogenic pressures. By fostering a supportive habitat, including the preservation of native flora and minimizing human disturbances, the campus can enhance its capacity to sustain a thriving faunal population. Together, the comprehensive records of flora and fauna not only underline the ecological richness of the campus but also provide actionable insights to ensure the long-term sustainability of its biodiversity.