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IDENTIFICATION OF ORNAMENTAL GARDEN PLANTS FROM RANDOMLY SELECTED HOUSES OF PANAMUKKU THISSUR CORPORATION.

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ABSTRACT: Mother nature contains a wide range of plant and animal species, as well as the sky, ground, and air. However, a vast number of plants remain unclassified and unidentified. The woodlands and other protected and unprotected regions are home to many of these unnamed plants. Home gardens are getting increasingly fashionable these days. Many individuals grow flowers, fruits, and vegetables for their own consumption. Gardening in the kitchen is very popular. Many people of Kerala grow tomatoes, brinjal, spinach, and other vegetables in their home gardens. Fresh, chemical-free vegetables are obtained in this manner. We can detect the plant diversity of a region by observing different home gardens. Commercial use of vegetables and fruits grown in home gardens can provide locals with additional revenue. In home gardens, mostly locally available fruits and vegetables are grown. Garden plants are also getting increasingly fashionable these days. They are the centre of interest in many locales. Many individuals create their gardens in unusual ways. Many individuals purchase exotic plants from nurseries, ensuring that new plants are introduced into the local flora. Many people took up gardening as a hobby during the 2020 lockdown due to Covid -19. They began to grow hanging plants in their homes and began to place inside plants as well. Many gardens have a diverse range of exotic and indigenous garden plant species. There is a wide range of plants to be observed, including both flowering and foliage plants. Gardening is one of the best ways to become involved in the current scenario of the covid-19 pandemic. They aid in the improvement of mental health, sleep, and the reduction of stress, anxiety, and depression. In this study, we identify decorative garden plants from Panamukku Thrissur Corporation residences that were randomly selected.

Index Terms: Ornamental plants,Home garden,Exotic species,Indigenous,Mental health,

I.INTRODUCTION: Gardens are areas where various sorts of plants and trees are cultivated in specific patterns according to the interests of the proprietors. Gardens are pleasing to the sight. They have anti-inflammatory effects. They have the potential to improve our mental wellness. The link between culture and nature is revealed in gardens.

Floristic and taxonomic research provides reliable information on the nomenclature, distribution, ecology, and utility of a wide range of plant species, with an emphasis on environmentally sensitive areas. With a land size of roughly 329 million hectares, India is the world's sixth largest country. In forests and gardens, there is a lot of biodiversity. A forest is a living ecosystem that extends vertically upwards into air layers surrounding forest canopy and below to the lowest soil layers influenced by roots and biotic processes. (Richard and Steven, 2007). Garden is a way of thinking about the relationship between nature and society. It is a point of equilibrium where human control and untamed nature coexist. (Francis *et al*., 1990). Home gardens have long been an important multipurpose agroforestry system in Kerala, combining ecological and socioeconomic sustainability. (Peyre *et al*., 2006). Homegardens are sites with a lot of species diversity, and they are microenvironments inside a broader farming system. They can also contain different crop kinds than the surrounding agroecosystems. There is a lot of variety in home gardens, but one thing to bear in mind is that people like to preserve crops that they value near to home. (Eyzaguirre and Pablo 2004). In this study, we identify decorative garden plants from Panamukku Thrissur Corporation residences that were randomly selected. Gardens are areas where various sorts of plants and trees are cultivated in specific patterns according to the interests of the proprietors. Gardens are pleasing to the sight. They have anti-inflammatory effects. They have the potential to improve our mental wellness. The link between culture and nature is revealed in gardens.In this study, we identify attractive garden plants that were randomly selected from Panamukku Thrissur Corporation houses.

II.MATERIALS AND METHODS :

2.1 Study area

Thrissur is a district in Kerala that is located in the state's centre region. It covers an area of 3,032 square kilometres. Palakkad and Malappuram districts to the north, Ernakulam and Idukki districts to the south, and Coimbatore to the east, with the Arabian Sea to the west. The district has a tropical humid climate with a suffocating hot season, as well as abundant and seasonal rains. This district receives roughly 3,000mm of rain every year. From March to May, the hot season is followed by the South West monsoon, which lasts from June to September. The north east monsoon season lasts from December through February. Panamukku is the name of our research area. It is Thrissur Municipal Corporation's ward number 43. It covers an area of around 6 km2. It is a residential area with approximately 1000 homes. As part of our plant collection, we visited a variety of residential gardens at random. Mambhazhakadu,Parappuram,Sangamam,Mullakkal,Panamukku Centre,Vattippini, and more areas are included.

2.2 Collection of plants

The collecting of plants is our top priority because our work is based on the identification of garden plants. Due to covid 19 restrictions, we only visited a few Ward 43 homegardens. Plants are collected for a variety of reasons, such as identification specimens and herbaria.Herbaria is a type of specimen collection that is pressed and dried. Leaves, flowers, roots, stems, and fruits should all be present. All of these characteristics aid in the identification of the plant. They were carefully studied in the laboratory using a dissecting microscope and identified using'Botanica'. Goeff Burnie *et al.* 2013 published an illustrated A-Z of over 10,000 garden plants and how to care for them.and http://keralaplants.in/

2.3 How to select specimen

The plant as a whole is good for specimens. Because flowers and leaves are the most visible elements of the plant, they are critical for identification. It is necessary to acquire healthy specimens. The specimens should not be gathered if they have any infection, damage, falling leaves, blooms, or other pollutants. Only small portions of specimens, such as leaves, flowers, stems, and in rare cases roots, are used in our work.

2.4 Materials needed for collecting specimens

A knife is needed to cut the needed portion from the plant. A towel is needed to clean the selected specimen. Plastic covers are needed for placing the collected specimens.

2.5 Collection of specimen

Cut specimens to the required size using the knife. The specimen is safely transferred to the plastic covers after being cleaned with a clean towel. When doing so, extreme caution should be taken, as carelessness could

result in specimen damage. If the plant's name is already known, it's a good idea to identify it while collecting the plants. If you don't know the plant's name, it's usually a good idea to assign it a number to make future research easier. A description of the features of the gathered specimen should be written while collecting it to aid in easy identification. Date, month, and year of collection, as well as other details on the morphology of specimens, might be included to aid in the preparation of herbarium. In addition to the information listed above, a person/plant collector can include information such as the collection number, plant name, location of collection, description of plant, habit, habitat, date of collection, and collector's name.

1. Collection number - It is the number given to each specimen in order of collection. It is for our convenience. Each specimen is given a particular number starting from one.
2. Plant to make identification simpler one can name the plants that are collected. It can be its scientific name if it is known or it can be any local name or any identify feature just for our knowledge.
3. Description of plant- It refers to the description given to the plant which include details regarding its habit ,leaf ,flower, stem ,root etc..
4.Date of collection- It is important to mention the date of collection in herbarium as it helps in knowing the flowering season of the particular plant.
5.Name of collector- If the specimens are collected by more than one person. It is very much necessary to mention the name of the person in particular.When it comes to this project I am the sole collector of the plant.
6. Locality of collection-It is the locality from which the specimens are collected.

2.6 Making of Herbarium

Soon after the collection of specimen, the material should be pressed freshly .The collector should press it as soon as possible .If it is pressed few hours after collection ,there is a chance of the specimen losing its freshness . Therefore it will be difficult to press the same.

Pressing of plants can be done using a plant press which is made of wood. Due to unavailability of plant press, here we press the plants by keeping the plants individually inside a newspaper and keeping some books or other heavy materials above it. The newspaper should be changed daily for initial days after that the frequency of changing newspapers can be reduced. Within 10 -15 days most of the specimens will be pressed well .While keeping the plant for pressing ,certain precautions should be taken care of like the leaves and flowers should be arranged neatly without overlapping with each other. Spacing should be maintained so that all parts of specimen are neatly preserved.

After the drying of specimens we should paste it in herbarium sheets of standard size. It should be pasted neatly in such a manner that there is no overlapping between leaves and flowers.Tagging should be done on the herbarium. Certain deatils such as binomial of plant,family of plant,date of collection, locality of collection ,name of collector etc should be mentioned on one end of herbarium sheet.

III. RESULTS

FLORISTIC ANALYSIS

The analysis of ornamental garden plants from randomly selected houses in ward number 43 of Thrissur Cooperation revealed that there are seventy one species of ornamental garden plants belonging to fifty nine genera under twenty nine families are present. The study revealed that Dicotyledons were of forty nine species, Monocotyledons were of eighteen species, Gymnosperms were of one species and Pteridophytes were of two species. In Dicotyledons,ten species were Polypetalae ,thirty two species were Gamopetalae and seven were Monochlamydae. The major families were Rubiaceae, Apocynaceae, and Araceae, each with six species, followedCompositae(5),Liliaceae(5),Acanthaceae(4),Verbanaceae(3),Lamiaceae(3),Nyctaginaceae(3),Malvaceae(2),Leguminosae(2),Rosaceae(2),Oleaceae(2),Scrophul (2). Families featuring only one species include Portulacaceae, Rutaceae, Lythraceae, Araliaceae, Balsaminaceae, Gesneriaceae, Araucariaceae, Graminaceae, Nephrolepidaceae, and Thelypteridaceae.(Figure 1&2)

IV.DISCUSSION

A study was done in Aloor panchayath which is about 40 km away from our study area. Aloor is having similar climatic conditions as of our study area. The study was about medicinal plants. This study was done in 2015. In this study it was noted that there is about eighty plant species in the selected area. From the collected eighty species, forty five species were medicinal plants belonging to twenty seven families, in which

ten were shrubs ,four were climbers and thirty one were herbs. About seven species were found to be invasive species and sixteen species were weeds during the study time. (Biji, *et al* 2015)

Cherpu is a block panchayath near our study area. It is just a few kilometers away from our study area, having similar climatic conditions that of our study area . While conducting survey in home gardens of Cherpu block in Thrissur district, to elucidate the floristic attributes of shrub species. The analysis revealed that twenty three shrub species distributed in fifteen families were recorded. The observed species useful in every day to day life of inhabitants of village as medicinal plants, edible plants, ornamental plants fuel wood and other uses. Survey was done in forty home gardens, which were randomly sampled. Twenty three species of shrubs were belonging to fifteen families were identified. The shrubs coming under family Malvaceae and Verbenaceae were most dominant in the study area. (Vijayan and Gopakumar 2015).

In our study a total of about 71 species were recorded. About 29 families belonging to 59 genera was noted. From the above mentioned species, 33species of them was herbs, 31 species was shrubs, 2 species was trees and 5 species were climbers. The study revealed that Dicotyledons were of 49 species, Monocotyledons were of 18 species, Gymnosperms were of 1 species and Pteridophytes were of 2 species. In Dicotyledons ,10 species were Polypetalae ,32 species were Gamopetalae and 7 were Monochlamydae. . The major families were Rubiaceae, Apocynaceae, and Araceae, each with six species, followed by Compositae(5), Liliaceae(5), Acanthaceae(4), Verbenaceae(3), Lamiaceae(3), Nyctaginaceae(3), Malvaceae(2),Leguminosae(2),Rosaceae(2),Oleaceae(2),Scrophulariaceae (2). Portulacaceae, Rutaceae, Lythraceae, Araliaceae, Balsaminaceae, Gesneriaceae, Araucariaceae, Graminaceae, Nephrolepidaceae, and Thelypteridaceae are the families with one species.(Table.1 & 2)

V. CONCLUSION

The analysis of ornamental garden plants from randomly selected houses of Panamukku Thrissur Corporation revealed that there are 71 species of ornamental garden plants belonging to 59 genera and 29 families are present. The study revealed that Dicotyledons were of 49 species, Monocotyledons were of 18 species, Gymnosperms were of one species and Pteridophytes were of two species. In Dicotyledons, ten species were Polypetalae, thirty two species were Gamopetalae and seven were Monochlamydeae. This study revealed that the dominant families were Rubiaceae (5), Liliaceae (5), Acanthaceae (4), Verbenaceae (3), Lamiaceae (3), Nyctaginaceae (3), Malvaceae (2), Leguminosae (3), Rosaceae (2), Oleaceae (2), Scrophulariaceae (2), Amarathaceae (2), Orchidaceae (2). Families containing one species are Portulacaceae, Rutaceae, Lythraceae, Araliaceae, Balsaminaceae, Gesneriaceae, Araucariaceae, Graminaceae,Nephrolepidaceae,and Thelypteridaceae. This research allowed me to gain a better understanding of the flora in my neighbourhood. This research assisted me in learning more about plants, their binomials, traits, and habitats, among other things.

Table 1: Analysis of Ornamental garden plants documented from the study area.

Plants		Families	Genera	Species
Dicotyledons	Polypetalae	7	9	10
	Gamopetalae	10	27	33
	Monochlamydae	3	6	7
Gymnosperms		1	1	1
Monocotyledons		6	14	18
Pteridosperms		2	2	2
Total		29	59	71

Table 2: Systematic treatment of documented plants from the study area

Sl No	Binomial	Common Name	Family	Habit
1.	*Portulaca grandiflora* Hook.	Rose moss	Portulacaceae	Herb
2.	*Hibiscus radiatus* Cav.	Monarch Rosemallow	Malvaceae	Shrub
3.	*Hibiscus rosa-sinensis* L.	Chinese Hibiscus , Red Hibiscus, Shoeflower	Malvaceae	Shrub
4.	*Murraya paniculata* (L.) Jacq.	Lakeview Jasmine,Mock Orange	Rutaceae	Shrub
5.	*Bauhinia acuminata* L	white Orchid-Tree	Leguminosae	Shrub
6.	*Caesalpinia pulcherrima* (L.) Sw.	Peacock Flower	Leguminosae	Shrub
7.	*Photinia × fraseri*	RedTip Photinia	Rosaceae	Shrub
8.	*Rosa gallica* L.	French Rose	Rosaceae	Shrub
9.	*Lagerstroemia indica* L.	Crape Myrtle	Lythraceae	Shrub
10.	*Polyscias scutellaria* (Burm.f.) Fosberg	Plum aralia	Araliaceae	Shrub
11.	*Pentas lanceolata* (Forssk .)Deflers	Star Cluster	Rubiaceae	Shrub
12.	*Ixora chinesis* Lam	Chinese Ixora	Rubiaceae	Shrub
13.	*Ixora coccinea* L.	JungleGeranium	Rubiaceae	Shrub
14.	*Hamelia patens* Jacq.	Firebush	Rubiaceae	Shrub
15.	*Mussaenda erythrophylla* (Schumach. And Thonn.)	Ashanti blood	Rubiaceae	Shrub
16	*Mussaenda philippica* (A.Rich.)	Tropical Dogwood	Rubiaceae	Shrub

17.	*Centratherum punctatum* Cass.	Brazilian Button Flower	Compositae / Asteraceae	Herb
18.	*Zinnia elegans* Jacq.	Commonzinnia	Compositae / Asteraceae	Herb
19.	*Tithonia rotundifolia* (Mill.) S . F. Blake	MexicanSunflower	Compositae / Asteraceae	Herb
20	*Zinnia angustifolia* Kunth .	Creeping Zinnia	Compositae / Asteraceae	Herb
21	*Cosmos sulphureus* Cav.	Sulphur Cosmos	Compositae / Asteraceae	Herb
22	*Impatiens walleriana* (Hook.f)	Bizzy Lizzy	Balsaminaceae	Herb
23	*Jasminium sambac* (L.) Aiton	Arabian jasmine	Oleaceae	Climber
24	*Jasminium grandiflorum* L.	Spanish Jasmine	Oleaceae	Climber
25	*Tabernaemontana divaricata* R. Br. ex Roem. and Schult.	Crepe Jasmine, Crepe Gardenia	Apocynaceae	Shrub
26	*Allamanda cathartica* L.	Golden Trumpet	Apocynaceae	Shrub
27	*Catharanthus roseus* (L.) G. Don	Madagascar periwinkle	Apocynaceae	Shrub
28.	*Nerium oleander* L.	Oleander	Apocynaceae	Shrub
29.	*Wrightia antidysentrica* (L.) R.Br.	Arctic Snow	Apocynaceae	Shrub
30.	*Calotropis gigantea*(L.) Dryand	Crownflower	Apocynaceae	Smalltree
31.	*Torenia fournieri* Linden ex E. Fourn	Wishbone Flower	Scrophulariineae	Herb
32.	*Russelia equisetiformis* Schlecht. And Cham.	CoralPlant, Coral Fountain	Scrophulariineae	Shrub
34.	*Graptophyllum pictum* (L.) Griff	Tricolour caricature plant	Acanthaceae	Shrub
35.	*Asystasia gangetica* (L.) T. Anderson	Coromandel, ChineseViolet,CreepingFoxglov	Acanthaceae	Herb

		e,GangesPrimrose		
36	*Strobilanthes alternata* (Burm. f.) Moylan ex J. R. I. Wood	RedIvy,Red Flame Ivy	Acanthaceae	Herb
37.	*Crossandra infundibuliformis* (L.) Nees	Fire cracker	Acanthaceae	Herb
38.	*Lantana camara* L	Lantana	Verbanaceae	Herb
39.	*Clerodendrum thomsoniae* Balf.f.	Bleeding Heart,Bleeding Glory Bower	Verbanaceae	Shrub
40	*Clerodendrum paniculatum* L.	Pagoda Flower	Verbanaceae	Shrub
41.	*Plectranthus scutellarioides* (L.) R. Br	Painted needle	Labiatae / Lamiaceae	Herb
42.	*Ocimum basilicum* L.	Great Basil	Labiatae / Lamiaceae	Herb
43.	*Ocimum tenuiflorum* L.	Holy Basil	Labiatae / Lamiaceae	Herb
44.	*Mirabilis jalapa* L.	Marvel Of Peru,Four - O'Clock Flower	Nyctagineae	Shrub
45.	*Bougainvillea glabra* Choisy	Paper flower	Nyctagineae	Shrub
46.	*Bougainvillea spectabilis* Willd.	Great Bougainvillea	Nyctagineae	Shrub
47.	*Gomphrena globosa* L.	Globe Amaranth	Amaranthaceae	Herb
48.	*Celosia argentea* L.	Cocks comb	Amaranthaceae	Herb
49.	*Euphorbia milii* Des Moul.	Crown Of Thorns	Euphorbiaceae	Shrub
50.	*Codiaeum variegatum* (L.) A. Juss.	Croton	Euphorbiaceae	Shrub
51.	*Araucaria heterophylla* (Salisb.) Franco	House Pine	Araucariaceae	Tree
52.	*Spathoglottis plicata* Blume	Philippine	Orchidaceae	Herb

		Ground Orchid		
53.	*Oncidium altissimum* (Jacq.) Sw.	Dancing Lady Orchid	Orchidaceae	Herb
54.	*Zephyranthes candida* (Lindi.) Herb.	White Rain	Amaryllidaceae	Herb
55.	*Hymenocallis littoralis* (Jacq.) Salisb.	Spider Lily	Amaryllidaceae	Herb
56	*Asparagus aethiopicus* L.	Asparagus fern	Liliaceae	Climber
57.	*Asparagus setaceus* (Kunth)Jessop	Common Asparagus	Liliaceae	Climber
58.	*Dracaena reflexa* Lam.	Song of India, Pride of India	Liliaceae	Shrub
59.	*Dracena surculosa*. (Lindl)	Gold dust Dracaena	Liliaceae	Shrub
60.	*Dracaena trifasciata* (Prain)Mabb.	Mother -in - law's Tounge	Liliaceae	Herb
61.	*Callisia repens* Jacq.	Creeping inch plant	Commelinaceae	Herb
62.	*Tradescantia zebrina* (Schinz) D.R.Hunt	Silver inch plant	Commelinaceae	Herb
63	*Syngonium Podophyllum* Schott	Arrowhaed vine,Goosefoot	Araceae	Herb
64.	*Syngonium wendlandii* Schott	Silver goosefoot ,Velvety syngonium	Araceae	Herb
65.	*Epipremnum aureum* (Linden and Andre) G.S.Bunting	Devil's IvyDevil's Vine,Golden Pothos	Araceae	Herb
66.	*Anthurium andraeanum* (Linden ex Andre)	Flamingo lily	Araceae	Herb
67.	*Philodendron burle- marxii* G.M. Barroso	Burle Marx Philodendron	Araceae	Climber
68	*Caladium bicolor* (Aiton) Vent.	Heart of jesus	Araceae	Herb
69.	*Phalaris arundinacea* L.	Reedy grass	Gramineae	Herb

70.	*Nephrolepis falcata* (Cav.) C.Chr	Fish tail fern	Nephrolepidaceae	Herb
71.	*Christella dentata* (Foessk.)Brownsey and Jermy	Downy maiden fern	Thelypteridaceae	Herb

FIGURE 1:Bar Diagram Showing Floristic Analysis

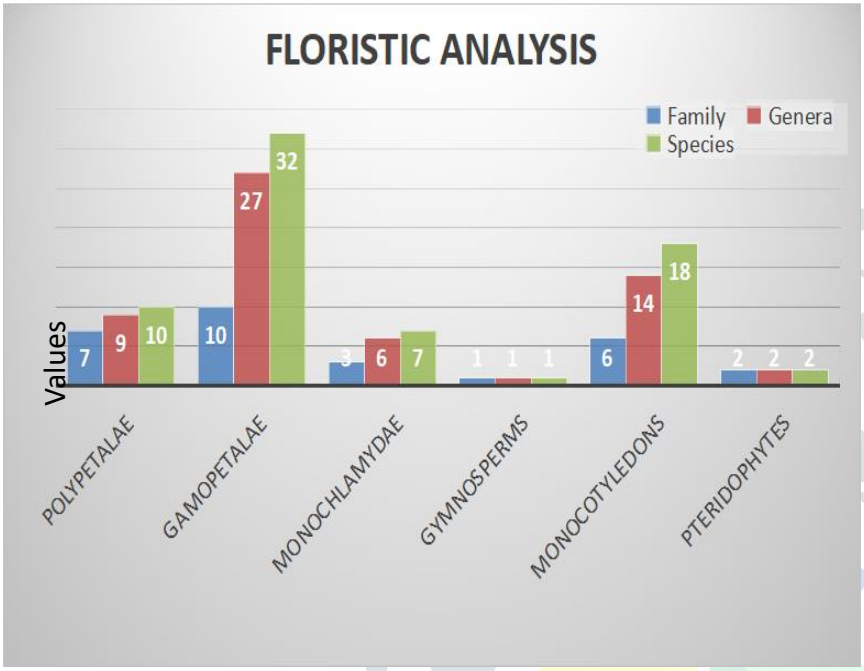
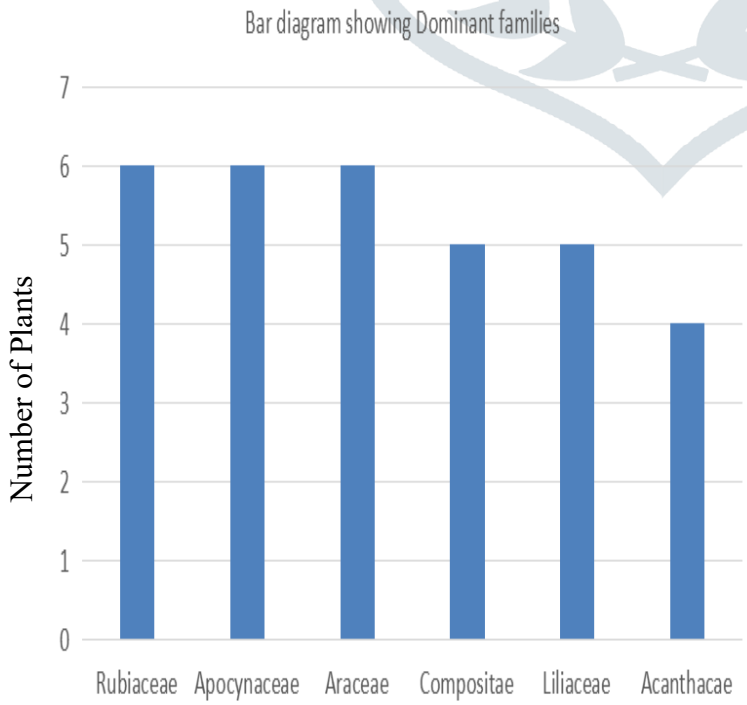


FIGURE 2: Bar diagram showing dominant families



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