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# Survey and Documentation of Ornamental Plants in Shivamogga Karnataka

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**Abstract:** ***Ornamentals are plants that are cultivated for decorative reasons in gardens and landscape design project as house plants. All plants are considered necessary and can potentially serve to fulfill one or more of our basic needs, such as food, shelter, and clothing as well as environmental integrity (aesthetic values). Plant product refers to goods and services derivable from plants and may include whole plant or plant's part (used as ingredients and condiments). The plants are grown for the display of their flowers but in many cases ornamental features in leaves, fruit, stem and bark. Since the beginning of life, plants have served human kind as source of fuel, food, clothing shelter and medicine. Plants contain numerous chemicals as a result of their natural metabolic activities. The present paper deals with the enumeration and documentation of scientific name vernacular names, family's habit and parts of ornamental plants.***

**Keywords:** Documentation, ornamental plants, Shivamogga

## 1. Introduction

Ornamentals are plants that are cultivated for decorative reasons in gardens and landscape design project as house plants, cut flowers and specimens display Oloyede (2012). The art and science of cultivating ornamental plants is called Floriculture. (Dadang et al 2020). Accordingly, Jessica (2013), Ornamental plants are cultivated for decoration, rather than by product from plants and food. The cultivation of ornamental plants comes under floriculture and tree nurseries, which is major branch of Horticulture. Olaniyan (2017) expatiated that horticulture is branch of Agriculture, which deals with the production, processing. Storage and marketing of fruits, vegetables, spices and Ornamental plants (Olaniyan2017). Osawuru and Ogwu (2021) noted that all plants are considered necessary and can potentially serve to fulfill one or more of our basic needs, such as food, shelter, and clothing as well as environmental integrity (aesthetic values). Plant product refers to goods and services derivable from plants and may include whole plant or plant's part (used as ingredients and condiments).

Ornamental plants have their ways in home gardens but their relative important vary in different gardens and places and also depending on the researchers' interests. This, in certain works on home gardens, the ornamentals are excluded; For example, because its presence is considered temporary and hard to count (Vlkova et al, 2010). Many studies about home gardens in rural area signify that food and medicinal plants are more abundance than Ornamental as (Aworinde et al, 2013). Various methods of cultivating and keeping ornamental Plants have been identified; they may be cultivated in a flower bed, shaped into a hedge or placed in sunny apartment window.

They are most often intentionally planned for aesthetic appeal. But a plant that occurs naturally and enhances the landscape could also be considered ornamental. While the most windy use of ornamental plant is their visual effect, they serve obvious reason and are used in landscape throughout the home to beautify the surrounding (Sani et al, 2016). It has been further stressed that numerous ornamental plants are chosen because they appeal to the sense of odour, in addition to their attractive appeals. Same fragrant plants (e.g. *Hyptis suaveolens*) have some beneficial effect at repelling outdoor pests such as anti-mosquitoes and flies (Sani et al, 2016). Ornamental plants have provided an attractive environment for human enjoyment. Few places where ornamental plants have been of benefit for environmental improvement.

The plants are grown for the display of their flowers but in many cases ornamental features include leaves, fruit, stem and bark. Since the beginning of life, plants have served human kind as source of fuel, food, clothing shelter and medicine. Plants contain numerous chemicals as a result of their natural metabolic activities. The bulk of the flowers are used as such in garlands and decorative. The large verities of ornamental plants are also cultivated in shady area (Das 2012). There are also rock gardens, potted plants and small pond that makes paradise of plants. Due to large demand of flowers, cultivation of ornamental plants has received an impetus in the recent years. So, the enhancement of growth and flowers production of such plants is desirable.

The present paper deals with the enumeration and documentation of scientific name vernacular names, family's habit and parts of ornamental plants.

## 2. Materials and methods

The Shivamogga's coordinates are approximately 13.93° North latitude and 75.57° East longitude. The study was carried out around the Shivamogga, Karnataka state in May - 1 to July-30. The survey involved the collection, identification and description of various ornamental plants commonly found in shivamogga. The ornamental plants were collected and identified using standard Floras and manuals of the region and with the help of plant taxonomist. Data obtained were analyzed using both description and quantitative statistics such as tables.

## 3. Result and Discussion

In the present study, it was observed that different plant species have different aesthetic values and are used for

different purposes including beautification and shades in the study area.

The field expedition of the study area showed interesting results concerning floristic diversity. A total of 42 plant species belonging to 27 families and 33 genera were recorded from the study site. Out of 42 plants, 40 were Angiosperms, 2 were Gymnosperms. Apocynaceae was the most dominate family with 3 genera and 4 species and other main contributing families were Arecaceae, with 3genera and 3 species Asparagaceae, with 1 genera 3 species, Euphorbiaceae with 3 genera and 3 species, Rubiaceae with 3 genera and 3 species, Amaryllidaceae with 2 genera and 2 species, Araliaceae with 1genera and 2 species, Araceae with 2 genera and 2 species, Commlinaceae with 1 genera and 2 species, Acanthaceae, Asteraceae, Begoniaceae, Connaceae, Celastraceae, Combretaceae, Convulvuaceae, Crassulaceae, Cupressaceae, Cycadaceae, Fabaceae, Lamiaceae, Moraceae, Malvaceae Nyctaginaceae, Orchidaceae, Phyllanthaceae, Verbenaceae, each with one genera and one species.

Besides shrubs from the major source of ornamental plants consisting of about 38.09% followed by herbs (30.95%), trees (9.52%), Medium sized trees (14.28%), Climbers (2.38%), Creeper (4.76%) respectively. Totally 27 families were identified, among which Apocynaceae (9.52%) is the dominant family followed by Arecaceae, Asparagaceae, Euphorbiaceae, Rubiaceae (7.14%), Amaryllidaceae, Araliaceae, Araceae, Commelinaceae (4.76%), Acanthaceae, Asteraceae, Begoniaceae, Comnaceae, Celastraceae, Combretaceae, Covolvulaceal, Crassulaceae, Cuppressaceae, Cycadaceae, Fabaceae, Lamiaceae, Maraceae, Malvaeae, Nyctaginaceae, Orchdaceae, Phyllanthaceae, Verbenaceae (2.38%).

**Table 1:** List of Ornamental plants.

| S/N | Common name | Scientific name | Family | Flowering season | Uses of valve | Endangered or rare | Exotic or indigenous |
|---|---|---|---|---|---|---|---|
| 1 | Scarlet bush/Texas fire bush | *Hamelia patens* | Rubiaceae | Early summer unit late fall | It is used for treating digestive issues and skin conditions; it helps to prevent soil erosion. | Not extinct | It is native to Southern Florida, Mexico, Central and South America. |
| 2 | Copper leaf, Jacobs coat | *Acalypha wilkesiana* | Euphorbiaceae | All year | It is used for treatment of pain, fever and ulcer. | Predicted extinction risk | It is native to Pacific islands and southeast Africa. |
| 3 | Paper flower | *Bougainvillea glabra* | Nyctaginaceae | November to May | It is used in the treatment of coughs and respiratory problems, Botanical insecticide. | Not extinct | It is native to Brazil, Peru and Argentina. |
| 4 | Golden dew drops | *Duranta repens* | Verbenaceae | Spring, summer, fall | It is used for Air purification. | Not extinct | It is native to tropical America from Florida to brazil. |
| 5 | Thuja Chinese Arborvitae, tree of life | *Plotycladus orientalis* | Cupressaceae | In the spring | It is used for treatment of minor headache, insomnia, palpitation and as a coagulant. | Near threatened | It is native to north western China. |
| 6 | Winter creeper euonymus | *Euonymus fortunei* | Celastraceae | During summer(For about 3 weeks) | It is used as a ground cover or a vine to climb walls and trees. | Not extinct | It is native to China, Japan and Korea. |
| 7 | Kesavardhini plant or lark daisy | *Centrather umpunctatum* | Asteraceae | Throughout the year | It is To treat variety of ailments, including skin conditions, respiratory problems and digestive disorders. | Rare and endangered plant | It is native to Forest of India. |
| 8 | Crepe jasmine pinwheel flower | *Tabernae-montanadivari-cata* | Apocynaceae | Spring, but flowers appear sporadically all year | It is used to treat snake and scorpion poisoning, wood is used as incense and perfume, pulp around seed is used to make red dyes. | Not extinct | It is native to India, now cultivated throughout South East Asia. |
| 9 | Rangoon Creeper or Burma creeper | *Combretum indicum* | Combretaceae | Throughout summer | It is used to treat boils, ulcers, parasitic skin infections and fever. | Listed as threatened plant | It is native to Southern Asia and tropical Africa. |
| 10 | Yellow rain lily | *Zephyranthes citrina* | Amaryllidaceae | Spring through summer usually following a rain | It is used to treat respiratory problems although the bulbs are considered toxic if ingested. | Listed as threatened species | It is native to Mexico South to Northern South America.. |
| 11 | Minnie root | *Ruellia tuberosa* | Acanthaceae | Rainy season | It is used to Diuretic, antipyretic, analgesic, antihypertensive, anthelmintic, abortifacient and emetic for conditions including renal disease, bronchitis, gonorrhea, and | Not extinct | It is native to Central America. |

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| | | | | | syphilis. Roots and leaves used in treatment of urinary retention. | | |
| 12 | Purple Heart | *Trodescantia pallida* | Commelinaceae | Midsummer though fall | It is used to improving indoor air quality by filtering volatile organic compounds, used as anti-toxic or anti-inflammatory Supplement. | Not extinct | It is Native to the Gulf coast region of eastern Mexico. |
| 13 | Indian shot | *Canna indica* | Cannaceae | May to October | It is used to treat menstrual pains. To treat gonorrhea and amenorrhea. In Nigeria people turn root into powder and ingest into treat diarrhea and dysentery. Flowers are used as medicine for malaria. | Not extinct | It has been minor food crop cultivated by indigenous people of the America. |
| 14 | Rhoeo plant mosses-in-the cradle | *Tradescanti aspathacea* | Commelinaceae | Throughout the year | It is used to treat cough, bronchitis and sprains. Treatment of fever amenorrhea, headache and rheumatism. | Not extinct | It is native range in the tropical Amerce. |
| 15 | Convolvulus pennifolius Drapiez. Convolvulus quamoclit | *Ipomoea quamoclit* | Convolvulaceae | Early summer to fall forest | It is used as folk medicine around the world for illness. Used in chest pain, pounded leaves are used as remedy for bleeding piles and carbuncles. | Not extinct | It is native to Mexico and Central America. |
| 16 | Ming Aralia | *Polyscias guilfoylei* | Araliaceae | All year round | It is used to leaves used in tonic, anti-inflammatory, antitoxin, and an antibacterial ointment used to aid digestion. Root is used diuretic, febrifuge, anti-dysenteric and in rheumatic pains. | Critically endangered | It is native to India. |
| 17 | Painted Nettle, Flame nettle, Common Coleus | *Coleus scutllarioids* | Lamiaceae | Spring | It is used to treat high blood pressure, heart failure, eczema, digestive colic, respiratory oilments, painful urination, insomnia and seizures. | Rare herb | It is Native to South East Asia through to Australia. |
| 18 | Egyptian star cluster or star flower | *Pentas lanceolata* | Rubiaceae | Spring to fall | It is used as an anti-inflammatory remedy for rheumatoid arthritis, tendonitis and ground. | Endangered species | It is native to Yemen and East Africa. |
| 19 | Croton, Garden croton | *Codiaeum variegatum* | Euphorbiaceae | Spring, summer fall, winter | It is used in treatment of diarrhea, stomach ache, external wounds, intestinal worms , ulcers. | Not extinct | It is native to the tropical of Southeast Asia and Pacific Islands. |
| 20 | Heart of Jesus | *Caladium bicolour* | Araceae | During the summer | It is used in ethnomedicine for the treatment of boils, wound ulcers and convulsion. | Not extinct | It is native to tropical Forest in South and Central America. |
| 21 | Begonia fibrous hybrid | *Begonia cracklingrosie* | Begoniaceae | Late winter or early spring | It is used to treat respiratory infections and skin diseases. | Endangered in the wild | It is native to the tropical rainforests of Southeast Asia. |
| 22 | Life plant, Mother of Thousands, Miracle leaf | *Kalanchoe pinnata* | Crassulaceae | Winter and spring | It is used to traditional treatment for hypertension-juice of leaves is also used for kidney stones. | Rare | Indigenous to Madagascar . |
| 23 | Ming aralia | *Polyscias fruticosa* | Araliaceae | Summer | It is used as tonic, anti-inflammatory, antitoxin, an antibacterial ointment. | Not extinct | It is native to tropical areas from India to Polynesia. |
| 24 | The snow bush | *Breynia disticha* | Phyllanthaceae | Spring, summer | It is used as a specimen and accent, and it also forms a nice hedge. | Not extinct | It is native to new Caledonia and Vanuatu in the Western pacific. |
| 25 | Chinese Hibiscus, China rose, shoeblack plant | *Hibiscus rosasinenesis* | Malvaceae | Mid-to-late summer | It is used for treating loss of appetite, colds, heart and nerve diseases, upper respiratory tract pain and swelling, fluid retention, | Critically endangered | It is native to warm temperate, subtropical and tropical regions throughout the |

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| | | | | | stomach irritation, and disorders of circulation, for dissolving phlegm; as a gentle laxative; and as a diuretic to increase urine output. | | world. |
| 26 | Chinese Fan Palm, Fountain palm | *Livistona chinesis* | Arecaceae | February, April | The Chinese Fan palm fruits have been used in traditional medicine as an anticancer agent. | Not extinct | It is native to Southern Japan, Taiwan, the Ryukyu islands, Southeastern China and Hainan. |
| 27 | Silhouette plant, Rainbow tree | *Dracaena angustifolia* | Aspargaceaea | Winter, summer | It is used in decoction of the leaves is ingested to treat dysentery, leucorrhea, and blennorrhea. | Exotic and rare plant | Tropical and subtropical Asia to N. Australia. |
| 28 | Acacia-tree,Earlef Acacia | *Acacia auriculiformis* | Fabaceae (leguminosae) | March to December but more in sept-oct | Raised on the plantations for fuel wood throughout Southeast Asia, Oceania and in Sudan. | Listed or threatened | It is native to Australia, Philippines, Indonesia and Papua New Guinea. |
| 29 | Crowns of Thorns | *Euphorbia milli* | Euphorbiaceae | Late winter | It is used in aiding snail control. Natural alternative to pest control. | Listed as threatened | It is native to Madagascar. |
| 30 | Allamanda, Golden trumpet, Yellow Allamanda | *Allemanda cathartica* | Apocynaceae | Summer and fall | It is used in inducing vomiting. | Not extinct | It is native to Brazil. |
| 31 | Walidda, Artic snow | *Wrightia antidysenterica* | Apocynaceae | All year round | It is used against dysentery | Threatened | It is native to Srilanka. |
| 32 | Song of India | *Dracaena reflexa* | Asparagaceae | Late winter | It is used to cure malarial symptoms, poisoning, dysentery, diarrhea, dysmenorrheal, and to be useful as an antipyretic and haemostatic agent. Help reduce indoor pollution levels. | Listed as threatened | It is native to Mozambique and Madagascar, Mauritius, and other nearby islands of the Indian ocean. |
| 33 | Ivory palms ivory-nut palms | *Phytelephan-saequatorialis* | Arecaceae | Mainly in dry season | Jelly-like in nature endosperm is eaten or consumed as a drink. Hard seed is used as substitute for ivory, leaves are used as thatching material | Threatened | It is native to Colombia and Panama. |
| 34 | Split-leaf philodendron | *Thaumatophy-llumbipin natifidum* | Araceae | Spring, summer | It is used to improve air quality in home. | Critically endangered and possibly extinct | Indigenous to the tropical parts of South America. |
| 35 | Mussaenda orange | *Mussaenda philppica* | Rubiaceae | Summer | It is used to treat appendicitis and hepatitis. | Extremely rare | It is native to the Philippines. |
| 36 | Florida Royal Palm, Royal Palm | *Roystone aregia* | Arecaceae | Throughout the year but mostly in summer | The seed is used as a source of oil and for livestock food. Leaves are used for thatching and wood for construction. | Critically endangered | It is native to South Florid and Cuba. |
| 37 | Sago palm | *Cycas speices* | Cycadaceae | Late spring | It is used as ornamental conservatory plants, leaves are widely used as ceremonial ‘palms ‘in floriculture. | Near threatened | It is native from India and Srilanka in the West through China to Japan in the North East and through South East Asia to Indonesia in the South. |
| 38 | Beach spider lilly | *Hymenocallis littoralis* | Amaryllidaceae | Mid-summer to late fall | It is used to treat gastric ulcers, wounds and respiratory problems. | Not extinct | It is native to Warmer coastal region of Latin America. |
| 39 | Weeping fig | *Ficus benjamina* | Moraceae | Flower starts blooming on its second to third year | Plant twigs are used as insect repellant by keeping them under the beds. It is also used to repel the insect from | Listed as endangered | It is native to Southeastern Asia and Australia. |

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| | | | | | kitchen and other places. | | |
| 40 | Mother-in-low's tongue, or snake plant | *Dracaena trifasciata* | Asparagaceae | During spring | Plants are used to filter indoor air. to remove toxic pollutants, it helps boost mental health, it is effective against allergies. | Endangered species | It is native to West and West Central Africa. |
| 41 | Purple A Allamand | *Allamanda blanchetti* | Apocynaceae | All year round | It has land scape uses such as Ground cover, Hedge/ Screening, parks and Gardens. | Not extinct | It is native to Brazil. |
| 42 | Foxtail orchid | *Rhynchostylis retusa* | Orchidaceae | Late spring | Plants are used against asthma and tuberculosis and for 'nervous twitching', cramp, epileptic spasms, vertigo, palpitations, kidney stone and menstrual disorder. Plant is also used to treat wounds, cuts and bruises in Assam. | Endangered species | It can be found in Bhutan, Cambodia, China, India, Indonesia, Laos, Malaysia Myanmar, Nepal, Philippines, Singapore, and Srilanka, Thailand and Vietnam. |

**Table 2:** Habit of the Ornamental plants

| S. No | Habit | Number of plants | Percentage |
|---|---|---|---|
| 1 | Herbs | 13 | 30.95% |
| 2 | Shrubs | 16 | 38.09% |
| 3 | Tree | 4 | 9.52% |
| 4 | Medium Sized trel | 6 | 14.28% |
| 5 | Climbers | 1 | 2.38% |
| 6 | Creeper | 2 | 4.76% |

**Table 3:** Family distribution of ornamental plants

| S. No | Family | Number of Plants | Percentage |
|---|---|---|---|
| 1 | Acanthaceae | 1 | 2.38% |
| 2 | Amaryllidaceae | 2 | 4.76% |
| 3 | Apocynaceae | 4 | 9.52% |
| 4 | Araliaceae | 2 | 4.76% |
| 5 | Araceae | 2 | 4.76% |
| 6 | Arecaceae | 3 | 7.14% |
| 7 | Asteraceae | 1 | 2.38% |
| 8 | Asparagaceae | 3 | 7.14% |
| 9 | Begoniaceae | 1 | 2.38% |
| 10 | Cannaceae | 1 | 2.38% |
| 11 | Celastraceae | 1 | 2.38% |
| 12 | Cmbretaceae | 1 | 2.38% |
| 13 | Commelinaceae | 2 | 4.76% |
| 14 | Convolvulaceae | 1 | 2.38% |
| 15 | Crassulaceae | 1 | 2.38% |
| 16 | Cupressaceae | 1 | 2.38% |
| 17 | Cycadaceae | 1 | 2.38% |
| 18 | Euphorbiaceae | 3 | 7.14% |
| 19 | Fabaceae | 1 | 2.38% |
| 20 | Lamiaceae | 1 | 2.38% |
| 21 | Moraceae | 1 | 2.38% |
| 22 | Malvaceae | 1 | 2.38% |
| 23 | Nyctaginaceae | 1 | 2.38% |
| 24 | Orchidaceae | 1 | 2.38% |
| 25 | Phyllanthaceae | 1 | 2.38% |
| 26 | Verbenaceae | 1 | 2.38% |
| 27 | Rubiaceae | 3 | 7.14% |

## 4. Conclusion

It was therefore concluded that Shivamogga is endowed with numerous Ornamental plants that cut-across different from of habits; such plants have provided aesthetic as well as protection values to the community and its environment. This study has revealed that several ornamental plant species are cultivated to beautify the human environment as well as to provide shade, modify temperatures, reduce wind speed, avoid noise and prevent soil erosion. People use cut flowers, dried flowers and indoor plants. Outdoor, they use town grasses shade trees, Ornamental frees shrubs, vines, herbaceous perennials as habit and bedding plants. First analysis is sociability, showed that the highest valve was individual species small groups (<40). Second analysis was vitality with percentage of 38.09% (Mostly shrubs).

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