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Characterization of the Ornamental Flora of Saint-Louis City (Senegal): Diversity, Uses, and Decorative Organs

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Abstract

In Senegal, with urbanization and the greening of public and private spaces, the ornamental sector is booming, marked by an expansion of horticultural stations in cities. This sector creates jobs in the cultivation, sale, and maintenance of plants. However, the development of this activity faces a number of problems, such as a lack of structure, limited access to inputs, and technical supervision. The lack of economic recognition of ornamental products is also an obstacle to their development and professionalization. Despite its great potential, the floristic diversity of ornamental gardens remains poorly documented. This study was therefore proposed to characterize the ornamental flora of Saint-Louis city and to identify the main uses and embellishment organs of the plants listed. A floristic inventory, followed by a semi-structured interview with the city's 19 tree nurseries, resulted in the identification of 134 ornamental species belonging to 114 genera grouped into 58 families. The flora is largely dominated by Angiosperms (93%), with a high preponderance of dicotyledons (64.93%) and monocotyledons (29.85%). The most represented families in terms of number of species in the flora are, in descending order, Arecaceae (7.46%), Lamiaceae (6.72%), Apocynaceae and Euphorbiaceae (5.22% each), Acanthaceae, Araceae, and Asparagaceae (4.48% each). The results also show that ornamental use is more widespread, with a proportion of 41.79%. These results indicate that, in addition to their aesthetic role, some plants are used for medicinal purposes (28.36%), animal feed (5.22%), and human consumption (4.48%). Three main decorative organs of plants are valued: foliage and growth habit (61%), flowers (29%), and foliage and flowers (10%). This characterization is an important tool for better management and valorization

of urban ornamental flora.

Keywords

Flora, Ornamental, Characterization, Saint-Louis

1. Introduction

Agriculture is one of the fundamental activities for humans, ensuring the production of food essential for the survival and quality of the population's lives. It forms the foundation of food security in terms of quantity and quality, as well as human and animal health and well-being [1]. In Senegal, agriculture is a key sector of the economy, contributing up to 15% of the country's gross domestic product [2]. Within this sector, urban agriculture plays an important role by ensuring food supplies for cities, while also creating jobs, generating income, and improving the living environment [3]. Bringing together various activities located within or on the outskirts of cities, urban agriculture encompasses urban forestry, landscape architecture, and market and ornamental horticulture [4]. These practices, particularly ornamental horticulture, are becoming increasingly important in the face of the scarcity of agricultural land in cities and the disappearance of forests, prompting populations to recreate green spaces in order to improve their living environment [5]. Consequently, ornamental horticulture goes beyond simply decorating our living environments; it is a vital sector that combines aesthetic interests with socio-economic and environmental benefits, while contributing to the sustainable development of regions. In Senegal, despite the expansion of horticultural stations, the floristic diversity of ornamental gardens and their main potential remain poorly documented [6]. It is therefore important to deepen our knowledge of ornamental species in order to optimize their use, improve their management, and maximize their benefits. In this context, this study was conducted to characterize the ornamental flora of Saint-Louis city. Specifically, it aims to establish the taxonomic and biological spectra of the recorded ornamental species, identify their main uses, and determine the most valued decorative plant organs.

2. Materials and Methods

2.1. Study Area

The work was carried out in 2024 at 19 horticultural stations located in the Dakar-bango, Balacos, Sud, Leona, Corniche, and Diamaguene districts of the Saint-Louis city (**Figure 1**). The study area is subject to a Sahelian climate characterized by two seasons: a dry season from November to June and a rainy season from July to October [7]. Average rainfall is 263.8 mm. The average temperature is 26˚C, with lows in January-February (23˚C) and highs in August-September (29˚C) [8].

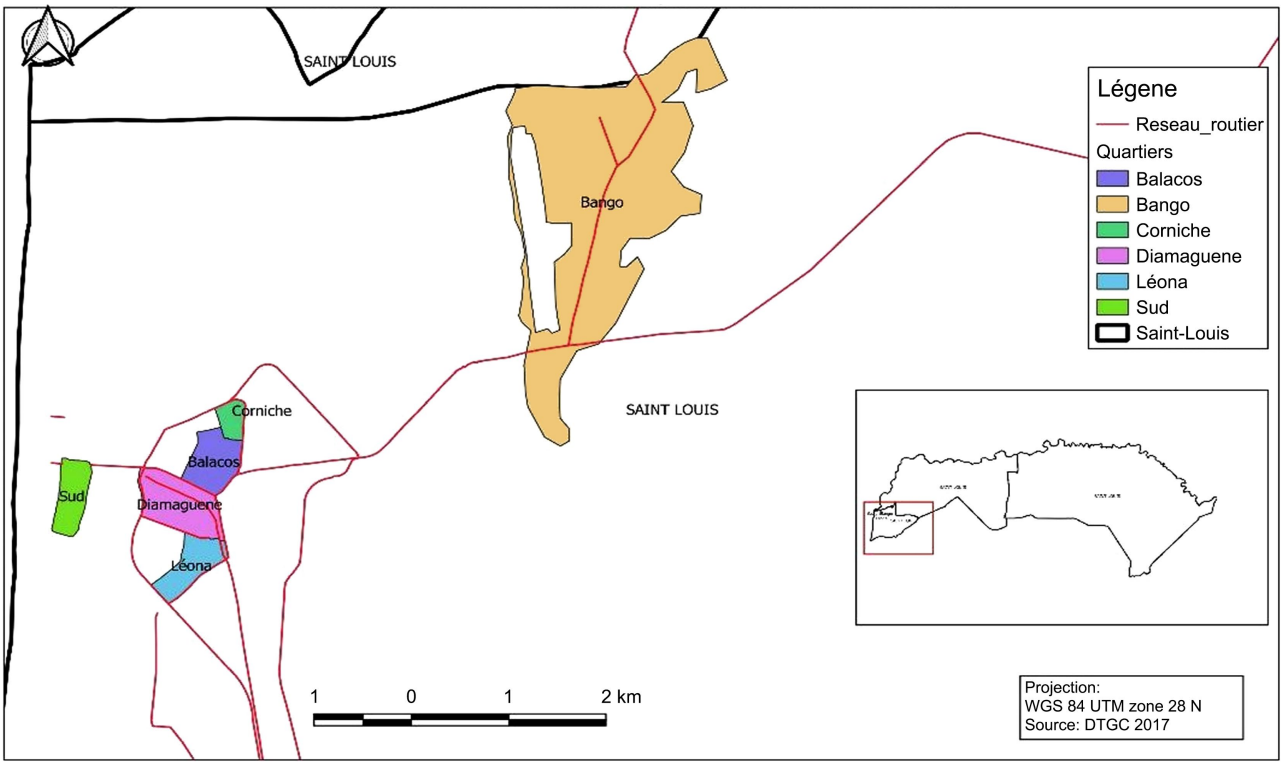

Figure 1. Location of the study area.

2.2. Flora Inventory

Flora inventory was carried out at 19 tree nurseries, which constitute the only spaces in the city and are distributed throughout the city's districts. Plants were mainly identified *in situ*, and for those not recognized, samples were collected and photographed for later identification. Species identification was based on the flora of Senegal [9] and the works of [10] and [6]. The inventory was carried out using the "itinerant method" in the tree nurseries. This method involves walking through areas and noting all the species encountered that have not been recorded in the plot. Each species recorded and identified was given its scientific name (genus name + scientific epithet) and family name. The percentage of families is calculated by multiplying the number of families in a taxonomic group by 100, and then dividing this figure by the total number of recorded families. The same principle was applied to determine the percentage of genera and species. The percentage of the most represented families was obtained by dividing the number of species in each family by the total number of species, and then multiplying by 100. The classification used to identify families is phylogenetic [11].

Biological types were determined with reference to Raunkier's classification [12], adapted to tropical zones where the unfavorable season corresponds to the dry season, and also to the work of [13] and [6]. This inventory is completed by a semi-structured interview with the 19 managers of these tree nurseries in order to gather information on the main uses, as well as the most valued decorative parts of plants.

3. Results

3.1. Taxonomic Spectrum

Table 1 lists the ornamental species inventoried, together with their biological type and main uses. Based on this inventory, 134 species were identified, grouped into 114 genera and 58 families.

Table 1. List of ornamental species, with their families, scientific name, number of species per family, biological type and main uses.

Famille	NE/F	Scientific name	TB	Main uses
Acanthaceae (D)	6	*Aphelandra squarrosa* Nees	He	Ornamental
		Odontonema stricum Kuntze	Np	Ornamental
		Pseuderanthemum maculatum (G.loodd)	Np	Ornamental
		Ruellia angustifolia Sw.	Ch	Ornamental
		Ruellia brittoniana Leon.	Ch	Ornamental
		Thunbergia erecta Benth.	Np	Ornamental
Amaryllidaceae (M)	1	*Crinum angustum* Roxb.	Ge	Ornamental
Anarcardiaceae (D)	1	*Mangifera indica* L.	Ph	Human food, Tra. Med.
Annonaceae (D)	2	*Annona muricata* L.	Ph	Human food, Tra. Med.
		Annona squasoma L.	Ph	Human food, Tra. Med.
Apocynaceae (D)	7	*Adenium obesum* (Forsk.) Roem. & Schult.	Ch	Ornamental
		Allamanda cathartica L.	Ph	Ornamental, Tra. Med.
		Asclepias curassavica L.	Ch	Ornamental
		Catharanthus roseus (L.) G. Don	Ch	Ornamental
		Plumeria pudica Jacq.	Np	Ornamental
		Nerium oleander L.	Ph	Ornamental
		Tabernaemontana divaricata (L.) R.Br.	Np	Ornamental, Industry
Araceae (M)	6	*Aglaonema commutatum* Schott	He	Ornamental
		Alocasia macrorrhiza Schott.	Ge	Ornamental
		Caladium bicolor (Ait.) Vent.	Ge	Ornamental
		Dieffenbachia amoena Schott.	Ch	Ornamental
		Dieffenbachia seguine Jacq.	Ch	Ornamental
		Epipremnum aureum (Lind. & And.) Bunting	He	Ornamental
Araliaceae (D)	5	*Hydrocotyle verticillata* Thunb.	He	Ornamental
		Polyscias fruticosa (L.) Harms	Np	Ornamental
		Polyscias guilfoylei L.H. Bailey	Ph	Ornamental

Continued

		Polyscias scutellaria (Burm.f.) Fosberg	Np	Ornamental
		Schefflera arboricola (Hayata) Merr.	Ph	Ornamental
Araucariaceae (Gym)	**1**	*Araucaria heterophylla* (Salisb.) Fran.	Ph	Ornamental
Arecaceae (M)	**10**	*Adonidia merrillii* Becc.	Ph	Ornamental
		Caryota mitis Lour.	Ph	Ornamental
		Cocos nucifera L.	Ph	Ornamental, Human food
		Hyophorbe verschaffeltii Wendl.	Ph	Ornamental
		Dyphis lutescens Wendl.	Ph	Ornamental
		Phoenix dactylifera L.	Ph	Ornamental, Human food
		Pritchardia pacifica Seem & Wendl.	Ph	Ornamental
		Rhapis humilis Blume.	Ph	Ornamental
		Roystonea regia (Kunth) Cook	Ph	Ornamental, Human food
		Washingtonia robusta H.	Ph	Ornamental
Asparagaceae (M)	**6**	*Asparagus aethiopicus* L.	Ge	Ornamental
		Chlorophytum comosum (Thunb) Jacq.	Ge	Ornamental,
		Cordyline fruticosa (L.) Chev.	Np	Ornamental
		Furcraea foetida (L.) How.	Ge	Ornamental, Tra. Med.
		Sansevieria cylindrica Bojer ex Hook	Ch	Ornamental
		Sansevieria trifasciata Hort.	Ch	Ornamental,
Asteraceae (D)	**3**	*Pluchea carolinensis* (Jacq.) G. Don.	He	Ornamental, Tra. Med.
		Tagetes tenuifolia Cav.	Th	Ornamental
		Zinnia elegans Jacq.	Th	Ornamental, Tra. Med., Industry
Bromeliaceae (M)	**1**	*Ananas comosus* (L.) Merr.	He	Ornamental, Human food
Boraginaceae (D)	**1**	*Cordia Sebestena* L.	Ph	Ornamental Tra. Med.
Cactaceae (D)	**4**	*Cylindropuntia fulgida* (Engelm.) F.M. Knuth.	Np	Ornamental Tra. Med.
		Cereus jamacaru (L.) Mill.	Ph	Ornamental, Human food
		Echinocactus grisonii Hildm.	Ch	Ornamental
		Leuenbergeria bleo (Kunth) Lodé.	Np	Ornamental Tra. Med.
Caesalpiniaceae (D)	**3**	*Caesalpinia pulcherrima* (L.) Sw.	Ph	Ornamental
		Delonix regia (Bojer) Raf.	Ph	Ornamental
		Senna siamea (Lam.) Irwin & Barn.	Ph	Ornamental, Human food

Continued

Cannaceae (M)	**1**	*Canna indica* L.	Ge	Ornamental, Animal food
Casuarinaceae (D)	**1**	*Casuarina equisetifolia* L.	Ph	Ornamental, Tra. Med.
Chenopodiaceae (D)	**1**	*Alternanthera brasiliana* (L.) Kuntze	He	Ornamental
Combretaceae (D)	**2**	*Terminalia catappa* L.	Ph	Ornamental, Human food, Animal food, Tra. Med.
		Terminalia mantaly Perr.	Ph	Ornamental, Animal food
Commelinaceae (M)	**1**	*Tradescantia pallida* Hunt.	Ch	Ornamental
Costaceae (M)	**1**	*Helliana speciosa* (Koenig) Dutta.	Ge	Ornamental, Tra. Med.
Crassulaceae (D)	**4**	*Cotyledon orbiculata* L.	Ch	Ornamental, Tra. Med.
		Hylotelephium anacampseros (L.) Ohba	He	Ornamental, Tra. Med.
		Kalanchoe laetevirens Desc.	Np	Ornamental, Animal food, Tra. Med.
		Kalanchoe pinnata (Lam.) Pers.	Ch	Ornamental Human food
Cupressaceae (Gym)	**2**	*Hesperocyparis macrocarpa* (Hartw.) Bartel	Ph	Ornamental
		Thuja occidentalis L.	Ph	Ornamental, Tra. Med.
Cycadaceae (Gym)	**2**	*Cycas revoluta* Thumb.	Np	Ornamental, Tra. Med.
		Cycas thouarsii Gaudich.	Ph	Ornamental, Tra. Med.
Cyperaceae (M)	**1**	*Cyperus alternifolius* L.	He	Ornamental, Animal food
Dryopteridaceae (Pt)	**2**	*Nephrolepis biserrata* (Sw.) Schott	He	Ornamental, Tra. Med.
		Nephrolepis cordifolia (L.) Presl.	He	Ornamental, Tra. Med.
Euphorbiaceae (D)	**7**	*Acalypha wilkesiana* Mull. Arg.	Ph	Ornamental
		Codiaeum variegatum (Linn.) Blume	Ph	Ornamental
		Euphorbia heterophylla L.	Th	Ornamental Tra. Med., Animal food
		Euphorbia milii Des Moul.	Np	Ornamental
		Euphorbia tithymaloides L.	Np	Ornamental, Tra. Med.
		Hura crepitans L.	Ph	Ornamental, Tra. Med., Industry
		Jatropha gossypiifolia L.	Np	Ornamental, Tra. Med.
Fabaceae (D)	**1**	*Parkinsonia aculeata* L.	Ph	Ornamental
Gesneriaceae (D)	**1**	*Episcia cupreata* (Hook.) Hanst.	He	Ornamental
Iridaceae (M)	**1**	*Iris domestica* (L.) Gold. & Mabb.	He	Ornamental, Tra. Med.
Lamiaceae (D)	**9**	*Coleus comosus* Hochst.	He	Ornamental, Tra. Med.
		Coleus decurrens Gürke	He	Ornamental, Tra. Med.
		Coleus scutellarioides (L.) Benth.	He	Ornamental, Tra. Med.

Continued

		Melissa officinalis L.	He	Ornamental, Tra. Med.
		Mentha sp.	He	Ornamental, Tra. Med.
		Ocimum basilicum L.	Th	Ornamental, Tra. Med.
		Origanum vulgare L.	He	Ornamental Tra. Med.
		Rosmarinus officinalis L.	Np	Ornamental, Human food, Tra. med.
		Salvia officinalis L.	Np	Ornamental, Tra. Med.
Malvaceae (D)	1	*Hibiscus rosa-sinensis* L.	Np	Ornamental, Tra. Med.
Maranthaceae (M)	1	*Calathea zebrina* (Sims) Lindl.	He	Ornamental
Mimosaceae (D)	1	*Prosopis juliflora* L.	Ph	Ornamental, Animal food
Moraceae (D)	3	*Ficus benjamina* L.	Ph	Ornamental
		Ficus radicans Casar.	Ph	Ornamental
		Ficus retusa L.	Ph	Ornamental
Moringaceae (D)	1	*Moringa oleifera* Lam.	Ph	Ornamental Human food, Animal food, Tra. Med.
Myrtaceae (D)	1	*Eucalyptus camaldulensis* Deh.	Ph	Ornamental, Tra. Med., Industry
Nyctaginaceae (D)	2	*Bougainvillea spectabilis* Willd.	Ph	Ornamental
		Mirabilis jalapa L.	Ge	Ornamental, Tra. Med., Industry
Oleaceae (D)	1	*Jasminum officinale* L.	Np	Ornamental, Tra. Med., Industry, Human food
Pandanaceae (M)	3	*Pandanus amaryllifolius* Roxb.	Np	Ornamental, Tra. Med., Industry, Human food
		Pandanus dubius Spreng.	Np	Ornamental, Tra. Med., Industry, Human food
		Pandanus tectorius Park.	Np	Ornamental, Industry
Passifloraceae (D)	1	*Turnera diffusa* Willd.	Ch	Ornamental, Tra. Med.
Phyllanthaceae (D)	2	*Breynia disticha* Forst.	Np	Ornamental
		Phyllanthus tenellus Roxb.	Th	Ornamental, Tra. Med.
Plantaginaceae (D)	1	*Russelia equisetiformis* Cham. & Schltdl	Np	Ornamental, Tra. Med.
Plumbaginaceae (D)	1	*Plumbago auriculata* Lam.	Np	Ornamental
Poaceae (M)	3	*Bambusa vulgaris* Schrad.	Ph	Ornamental, Tra. Med., Industry
		Cymbopogon citratus (DC.) Stapf.	He	Ornamental, Tra. Med., Human food
		Cenchrus purpureus (Schu.) Mor.	He	Ornamental, Animal food
Polygonaceae (D)	1	*Antigonon leptopus* Hook. & Arn.	Ph	Ornamental, Tra. Med., Human food
Polypodiaceae (D)	1	*Phymatosorus scolopendria* (Burm.) Ching.	Ge	Ornamental, Tra. Med.
Portulacaceae (D)	1	*Portucala grandiflora* Hook	Th	Ornamental

Continued

Rosaceae (D)	**3**	*Rosa abietina* Gren.	Np	Ornamental, Tra. Med., Industry, Human food
		Rosa chinensis Jacq.	Np	Ornamental Tra. Med., Industry, Human food
		Rosa lucieae Franch. & Rochebr	Np	Ornamental, Tra. Med., Industry, Human food
Rubiaceae (D)	**1**	*Ixora coccinea* L.	Np	Ornamental, Tra. Med.
Rutaceae (D)	**1**	*Citrus latifolia* Yu.	Ph	Ornamental, Tra. Med., Industry, Human food
Sapotaceae (D)	**1**	*Manilkara zapota* (L.) Royen.	Ph	Ornamental, Human food, industry
Solanaceae (D)	**1**	*Datura innoxia* Mill.	Np	Ornamental, Tra. Med.
Strelitziaceae (D)	**1**	*Ravenala madagascariensis* Gmel. J.F.	Ph	Ornamental, Industry
Verbenaceae (D)	**3**	*Lantana camara* L.	Np	Ornamental, Tra. Med.
		Lippia alba (Mill.) N. E.	Np	Ornamental, Tra. Med., Industry
		Verbena officinalis L.	Np	Ornamental, Tra. Med.
Yuccaceae (M)	**1**	*Yucca filamentosa* L.	Np	Ornamental Tra. Med.
Zingiberaceae (M)	**2**	*Curcuma longa* L.	Ge	Tra. Med., Human food, Industry
		Zingiber officinale Roscoe	Ge	Tra. Med., Human food
Zygophyllaceae (D)	**1**	*Guaiacum officinale* L.	Ph	Ornamental, Tra. Med.

D = Dicotyledons; M = Monocotyledons; TB = Biological type; Th = Therophytes; Ch = Chamaephytes; He = Hemicryptophytes; Ge = Geophytes; Np = Nanophanerophytes; Ph = Phanerophytes; Tra. Med = Traditional medicine; 1, 2, ..., i = Number of species; NE/F = Number of species per family.

3.1.1. Flora Structure

The flora is dominated by Angiosperms, which represent 93% of encountered species. Within this group, dicotyledons largely predominate over monocotyledons in terms of species, genera, and families. Specifically, dicotyledons account for 64.93% of species compared to 29.85% for monocotyledons. This trend is also observed at the generic level, with 64.04% of dicotyledons compared to 31.58% of monocotyledons, and at the family level, where there are 67.24% of dicotyledons and 25.86% for monocotyledons. Pteridophytes and Gymnosperms, on the other hand, make only a small contribution. They account for 1.72% and 5.17% of families, 3.51% and 0.88% of genera, and 1.49% and 3.73% of species, respectively (**Table 2**).

3.1.2. Importance of Families

The distribution of inventoried ornamental species by family shows the dominance of seven main families, each grouping at least six species (**Table 1**). These families are Arecaceae (7.46%), Lamiaceae (6.72%), Apocynaceae and Euphorbiaceae (5.22%) each, and Acanthaceae, Araceae, and Asparagaceae (4.48%) each. Overall, these families account for 38.06% of the total number of species recorded. Ten other families are also well represented, with at least three species each. These are Araliaceae

(3.73%), Cactaceae and Crassulaceae (2.99%) each, and Asteraceae, Caesalpiniaceae, Moraceae, Pandanaceae, Poaceae, Rosaceae, and Verbenaceae (2.24%) each. Conversely, the other families are poorly represented, with only one or two species accounting for 0.75 and 1.49% per family.

Table 2. Flora structure.

Groups		Families		Genera		Species	
		Number	%	Number	%	Number	%
Angiosperms	Dicotyledons	39	67.24	73	64.04	87	64.93
	Monocotyledons	15	25.86	36	31.58	40	29.85
Pteridophytes		1	1.72	4	3.51	2	1.49
Gymnosperms		3	5.17	1	0.88	5	3.73
Total		**58**	**100**	**114**	**100**	**134**	**100**

3.2. Biological Spectrum

Analysis of the biological spectrum of ornamental species in Saint-Louis reveals five distinct biological types (Figure 2). Phanerophytes and Nanophanerophytes largely dominate the biological spectrum, contributing 34.33% and 25.37%, respectively, for a total of 59.70% of the spectrum. Hemicryptophytes (16.42%) and Chamephytes (10.45%) are also well represented, while Geophytes (8.96%) and Therophytes (4.48%) are the least represented biological types. Analysis of the biological spectrum indicates that 95.52% of species are perennial and biennial, compared with only 4.48% of annual species corresponding to Therophytes.

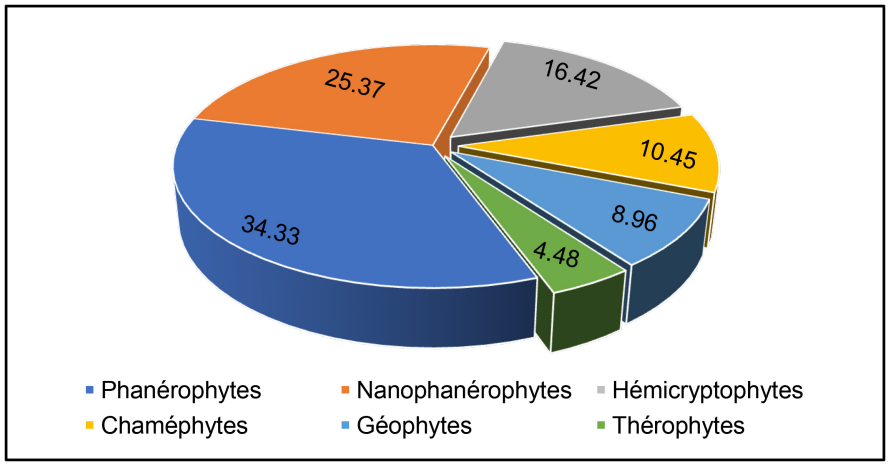

Figure 2. Biological spectrum of species.

3.3. Main Uses of Species

The majority of species recorded are used for ornamental purposes, while some are also associated with other uses (Figure 3). However, 41.79% of species are used

exclusively for ornamental purposes, while 28.36% are both ornamental and medicinal. Other uses are also observed, notably: 5.22% of species are used in animal feed in addition to their ornamental role, 4.48% of species are both ornamental and consumed in human food, and 2.99% of species are ornamental and used in industry. In addition, 3.73% of species are valued more for their food and medicinal uses than for ornamental purposes, and 13.43% of species are multi-purpose, combining ornamental use with several other functions.

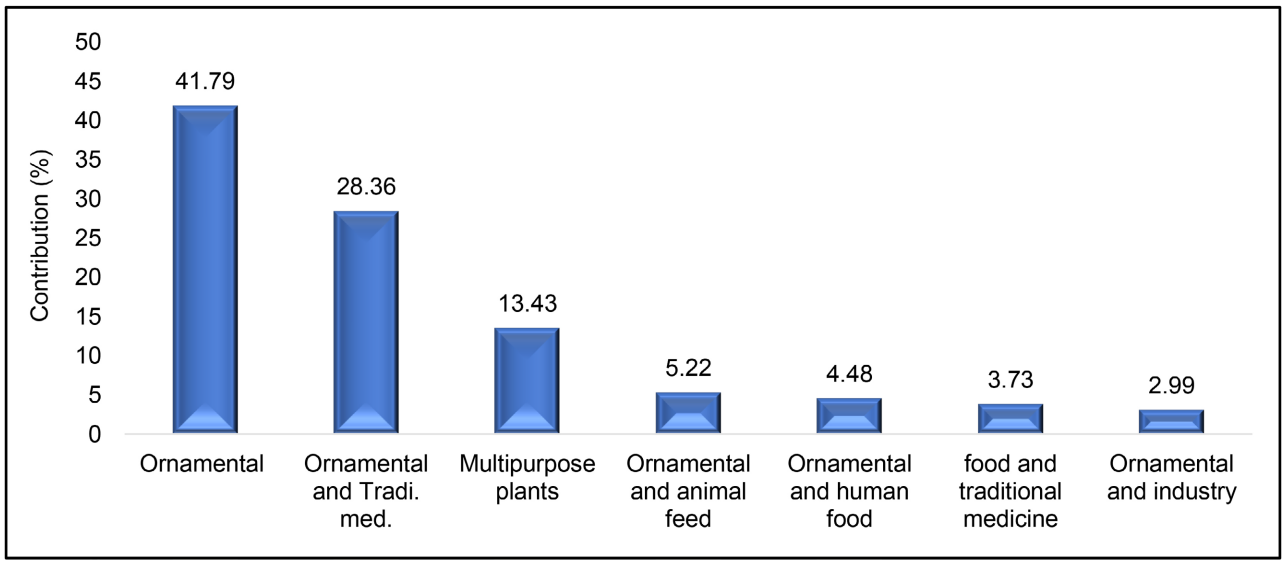

Figure 3. Main uses of species.

3.4. Popular Decorative Organs

The results show that three decorative organs are the most popular among the ornamental species listed in the city of Saint-Louis. Ornamental plants with decorative foliage and habit dominate with 61%, followed by those with decorative flowers representing 29%, and 10% of species with both decorative foliage and flowers (**Figure 4**).

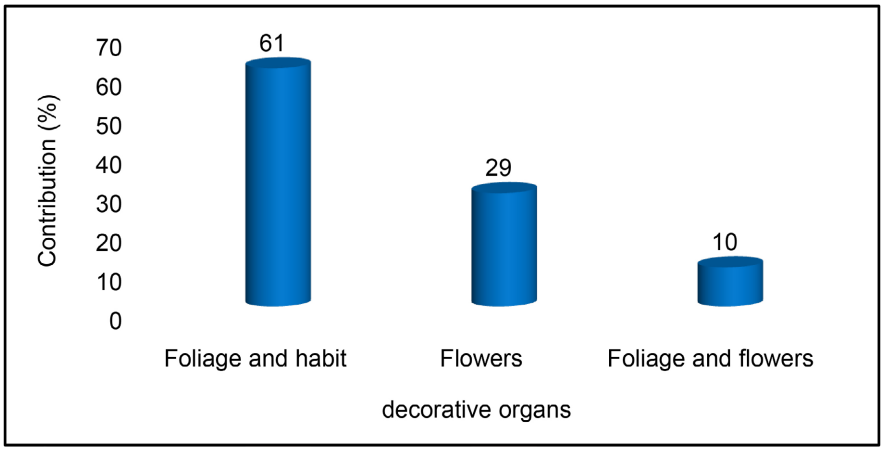

Figure 4. Decorative organs of species.

4. Discussion

The inventory of Saint-Louis's ornamental flora revealed a diverse range of species composed of 134 species belonging to 114 genera and 58 families. Although this inventory was carried out on only 19 horticultural stations, it shows a greater floristic diversity than that reported by [6], whose work was carried out on 59 horticultural stations in Dakar city and recorded 109 species gathered in 81 genera and 39 families. This variation in species richness could be attributed to farm size. In Dakar, farms are often small and located along roadsides [6], whereas in Saint-Louis, horticultural developments are on average larger. However, the ornamental flora of Saint-Louis remains less rich than that of Togo, inventoried by [13], who counted 612 species grouped into 246 genera and 72 families, that of southern Benin inventoried by [14], with 161 species belonging to 129 genera and 56 families, and that of the city of Nairobi, which inventoried 638 species in 100 green spaces [15]. These dissimilarities can be explained by the number and size of the horticultural sites explored, as well as the development of ornamental activities in cities. Analysis of the flora shows a clear dominance of Angiosperms (93%) over Gymnosperms and Pteridophytes. Within the Angiosperm group, dicotyledons contribute over 64% of species, outnumbering monocotyledons. These proportions are similar to those obtained by [13], listing 59% dicotyledons and 41% monocotyledons, and those obtained by [6], with 68.81% dicotyledons versus 23.85% monocotyledons. The results also highlight seven main families: Arecaceae, Lamiaceae, Apocynaceae, Euphorbiaceae, Acanthaceae, Araceae, and Asparagaceae. Of the seven families, three (Apocynaceae, Euphorbiaceae, and Araceae) are confirmed by [16], which demonstrates their importance in beautifying public spaces. This dominance could be attributed to a better adaptation of the species to diverse biotopes [17]. In addition, various factors could explain this domination. Firstly, the multiple uses of the species, particularly in the Arecaceae and Lamiaceae families. Other factors relate to ease of dissemination, particularly Euphorbiaceae and Apocynaceae, which multiply easily by cuttings, while Araceae and Asparagaceae reproduce by shoots or stump splinters.

In terms of biological types, the results show a primacy of perennial species (95.52%) in the flora surveyed. The most representative biological types among these are Phanerophytes (34.33%), Nanophanerophytes (25.37%), Hemicryptophytes (16.42%), and Chamephytes (10.45%). This finding can be explained by the multiple uses of woody species, in addition to their ornamental role, for food, fodder, and shade. These conclusions are similar to those of [6], who reported that in floriculture, perennial species are of ornamental but also useful importance.

Concerning species use, the study indicated that 41.79% of species are exclusively dedicated to ornamentation. However, a significant proportion of species combine their aesthetic role with other uses, especially traditional medicine (28.36%), human food (4.48%), animal feed (5.22%), and industry (2.99%). These results underline the diversity of the virtues of ornamental species, as well as their importance within local communities. The majority of plants used for medicinal purposes be-

long to the Lamiaceae, Verbenaceae, and Rosaceae families, which are known for treating various digestive, respiratory, and genitourinary ailments [18]. Their uses are based on a long-standing tradition of local communities using plants for primary healthcare, reinforced by the high cost of modern medicines [19]. Ornamental plants used for human food are mainly fruit plants (Anacardiaceae, Annonaceae, and Sapotaceae) and aromatic plants (Lamiaceae, Zingiberaceae) used as condiments or spices, while those for industrial purposes are used in carpentry and brewing [20].

For decorative organs, 61% of ornamental plants have attractive foliage or habit, 29% have decorative flowers, and 10% combine foliage and flowers. These results are similar to those of [21], who reported that in their work, 50.82% had decorative foliage and 27.13% decorative flowers. The importance of plants combining foliage and decorative habit would be explained by the conservation of their leaves, but also their aesthetic appeal. Among these plants are species of the genera *Terminalia*, *Ficus, Ravenala*, and *Annona*, which are valued for their foliage. While the Apocynaceae, Rosaceae, Malvaceae, Rubiaceae, and Plumbaginaceae families are mainly made up of species with decorative flowers. Plants combining foliage and flowers belong mainly to the Araceae family, offering year-round aesthetic appeal. These observations are similar to those of [22], finding that combining contrasting colors of plants' decorative parts and plant habit in landscaping highlights focal points and improves both the aesthetics and physical perception of the area.

5. Conclusion

This study characterized the ornamental flora of the city of Saint-Louis, indicating a floristic diversity of 134 species grouped into 114 genera and 58 families. Of these, seven main families stand out: Arecaceae, Lamiaceae, Apocynaceae, Euphorbiaceae, Acanthaceae, Araceae, and Asparagaceae. The biological spectrum shows a large majority of Phanerophytes followed by Nanophanerophytes. In terms of species use, species are used exclusively for ornamental purposes, followed by medicinal purposes and human food. Three decorative elements are particularly appreciated, namely decorative foliage and habit, followed by decorative flowers and decorative foliage and flowers. This characterization remains a useful basis for better knowledge, management, and enhancement of the ornamental flora of Saint-Louis in Senegal.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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