

**Expanding the visibility of Lagos Herbarium
through digitization and Mobilization of
Plant Data Specimen**

**The Outcome: Evidence-based
Recommendations**

KEY MESSAGES/EXECUTIVE SUMMARY

- Indiscriminate encroachment, rapid Urbanization, overgrazing and wetland ecosystem destruction have led to substantial destruction of the flora and fauna of Lagos State, with significant loss of its biodiversity. The destruction of these fragile natural resources can cause damage to health, and well-being, and have a socio-economic impact on the people.
- The current regulations & guidelines do not adequately address the protection of these natural resources. Natural habitats of plant & animal species are indiscriminately destroyed without bio-remediation planning in place.
- Post-COVID, there is a rising need to be more intentional about the sustainability of the Lagos flora and fauna because of the ecosystem services they provide to the populace and the environment. Strengthening existing Environmental laws, regulations, and guidelines to protect these natural resources is key to supporting and achieving SDG 15 - **Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainability, manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss.**
- **Inventorizing the flora and fauna of Lagos in digitized format is key to measuring the level of decline and the development of strategies to reverse the environmental degradation and loss of biodiversity.**
- Records of plant species in the State are most times stored physically in an herbarium in a research institution, which is sometimes cumbersome, and difficult to access for research and decision-making purposes.
- Digitizing these plant species makes them easily accessible to the government, researchers, students, and all other data users all over the world through an open-source database. Thereby making it easier to access research findings for decision-making in key areas of the environment such as endangered species protection, food production, natural disaster management, water quality, Land use and wetland management to measure the impact of urbanization and environmental degradation and develop holistic planning strategies to mitigate this impact in ensuring environmental sustainability.

- Furthermore, there is a need to strengthen advocacy and stakeholders' engagements to disseminate information on its importance and the need to preserve it for the generation unborn.

INTRODUCTION

Population explosion and rapid urbanization have adversely impacted the forested areas and wetlands in the State, leading to habitat destruction and loss of biodiversity of the flora and fauna in the State.

Plants that are indigenous to the State have rapidly declined over the years. These plants provide ecosystem services that are important to the populace and play significant roles in healthy living, food security, economic growth and the well-being of the people and the environment. This is in line with SDG 15 aimed at protecting, restoring and promoting sustainable use of terrestrial ecosystems, sustainably managing forests, combating desertification and halting and reversing land degradation and halting biodiversity loss.

Digitization of plant species makes it easily accessible and provides vast information that enhances planning for a more effective outcome. The information is easily accessible to the government, researchers, students, and all other data users all over the world through an open-source database. Thereby making it easier to access research findings for decision-making in key areas of the environment such as endangered species protection, Land use, agricultural planning, and Urban tree planning strategies to measure the impact of urbanization and environmental degradation and develop holistic planning strategies to mitigate this impact in ensuring environmental sustainability

During the migration from physical to digitized format and the subsequent mobilization of data, the findings show that the mangrove species and other indigenous plant species with immense socio-economic values have declined rapidly over the years. there are more exotic species and ornamentals recorded in recent times compared to the indigenous species.

The United Nations Sustainable Development Goal 15 adequately addresses this issue, emphasizing **Protection, restoration, and promoting sustainable use of terrestrial ecosystems, sustainability, managing forests, combat desertification, halting and reversing land degradation and halting biodiversity loss.**

Eco-system services provided by the forested areas and wetlands are agricultural activities/food production, recreation, cultural heritage site for tourism, food and medicine, flood control etc. It is therefore expedient to strengthen extant regulations & guidelines to focus intentionally on restoration protection and conservation of the forested area and wetlands in the state to ensure the sustainability of these natural resources.

KEY FINDINGS

A total of 1,509 species representing 188 plant families representing dicotyledons (1,260); monocotyledons (217); ferns (29); moss (1) conifers (1) and macro algae (1) of taxonomic categories represented in 57 plant orders were recorded as the collections from the Lagos University Herbarium (Figs. 1&2). These species belonging to 188 plant families were distributed into different life forms, herbs having the most species represented 38% of the collection (Fig. 3). Plant families with the highest number of species were: Fabaceae, Rubiaceae, Poaceae, Asteraceae, Euphorbiaceae, Malvaceae, Apocyanaceae, Cyperaceae, Lamiaceae and Combretaceae

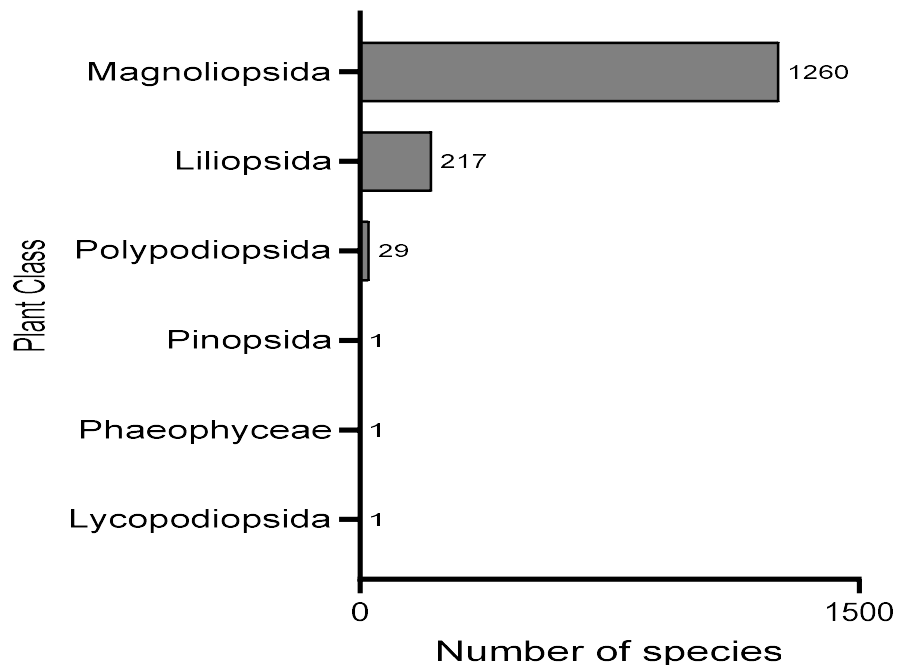


Fig. 1: Frequency of plant taxa in the different taxonomic categories

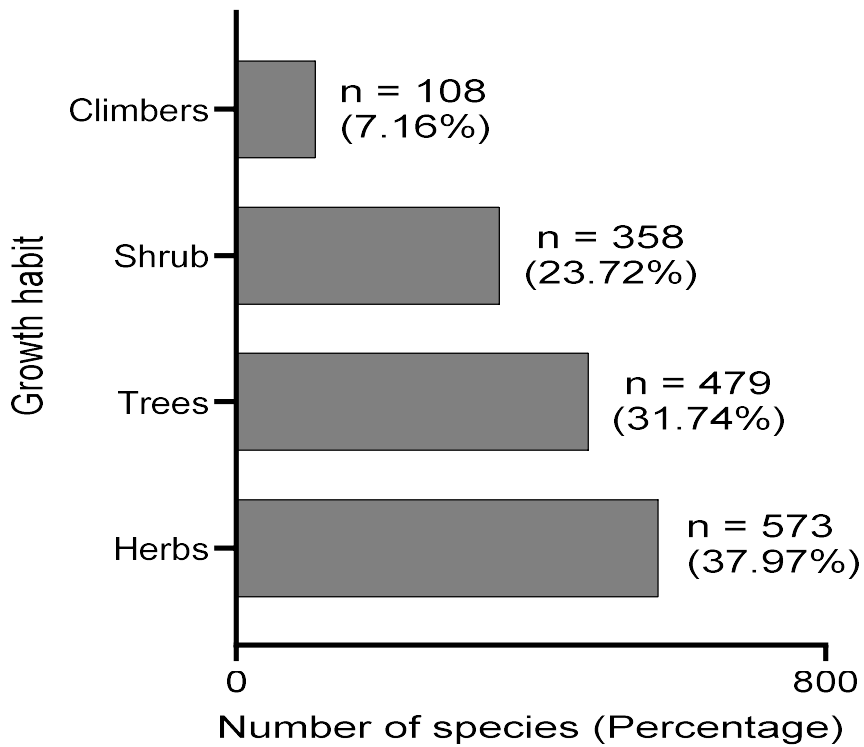


Fig. 2 : Frequency of species arranged by growth habit

Plant Use diversity

The plant use diversity was grouped as: plants for medicine, food, animal food, poison, material sources, social services, fuel and environmental use. The number of species for each use category is presented as below in Fig. 3. Most of the species were used as medicine (61.2%), followed by materials (16.4%), food plants (13.1%), environmental uses (8.6%), social uses, animal food, fuel and poison (2.5%). The plant family Fabaceae had the highest uses recorded in all the use categories followed by members of the Rubiaceae, Poaceae, Malvaceae and Euphorbiaceae.

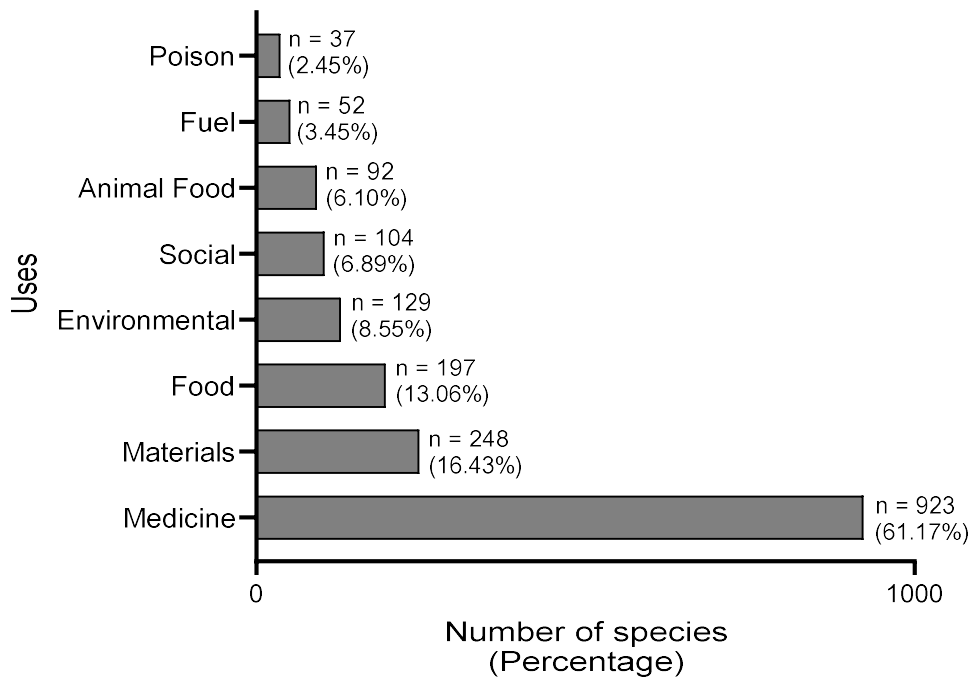


Fig. 3: Percentage representation of each use category

OBSERVATION

Based on collection sites, it was observed that many sites, where samples were collected years ago have, undergone significant changes. The areas have been converted, from natural green spaces to the built-up area. In these cleared areas no species were found there anymore.

In some locations, the population size of species found in recent times has reduced significantly because part of the area has been cleared for developmental purpose.

RECOMMENDATIONS

- Review and updating of extant regulations & guidelines in the State to adequately address. The current regulations & guidelines do not adequately address the protection of the flora and fauna of Lagos State based on current research evidence.
- **Inventorizing the flora and fauna of Lagos in digitized format is key to measuring the level of decline and the development of strategies to reverse the environmental degradation and loss of biodiversity.**

- The Stakeholder Advocacy Campaign should be intensified to encourage the wise use of wetlands and forested areas to ensure its sustainability.
- Encourage Public Private and institutional Partnership in implementing conservation targets that will reduce Biodiversity loss and promote sustainability. This will also help address threats to ecological character of green spaces.

References

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