Available online at http://www.ajol.info/index.php/njbas/index
Nigerian Journal of Basic and Applied Sciences (December, 2024), 32(2):30-46
DOI: http://dx.doi.org/10.4314/njbas.v32i2.5
ISSN 0794-5698

Full Length Research Article

A Broad Floristic Diversity of Federal University of Agriculture Abeokuta Campus, Ogun State

*[1]O.M. Mudasiru, [2]R.O. Sanni, [3]T.K. Muftaudeen, [1]A.S. Oyelakin, [4]A.E. Ayodele and [1]Suliat O. Balogun
[1]Department of Pure and Applied Botany, Federal University of Agriculture Abeokuta, Ogun State, Nigeria
[2]Department of Biology, Adeyemi Federal University of Education, Ondo, Nigeria
[3]Department of Biological Sciences, Baze University, Abuja, Nigeria
[4]Department of Botany, University of Ibadan, Ibadan, Nigeria
[*Corresponding author: Email: mudasiruom@funaab.edu.ng; ☎: +2347065579072]

ABSTRACT
This study was undertaken to investigate and document the floristic diversity of the Federal University of Agriculture Abeokuta (FUNAAB) main campus with a view to assess the numbers of plant species and the areas where they are found. Different vascular plants were enumerated through line transect sampling methods and direct on-site field observations. In all taxa studied, there were 269 documented vascular plant species from 215 genera and 72 families, including 84 herbs (31.23%), 83 trees (30.85%), 61 shrubs (22.68%), 19 vines (7.06%), 13 lianas (4.83%), 5 geophytes (1.86%) and 4 epiphytic plants (1.49%). The most diverse of the 72 identified families were Fabaceae (34 species), Euphorbiaceae (21 species), Malvaceae (19 species), Asteraceae (16 species) and Poaceae (12 species). Of the 269 plant species studied, 97.03% were angiosperms, 1.11% were gymnosperms and 1.86% were Pteridophytes. Native species outnumbered exotic species, indicating that native species are more likely to establish in disturbed areas than cultivated and exotic species. Anthropogenic activities have greatly altered the vegetation of FUNAAB campus. The floristic diversity can be improved by controlling the indiscriminate felling of plant taxa and other anthropogenic activities that can result in the depletion of the vegetation. Given the current rate of infrastructure development in the study area, adequate steps should be taken to protect the biodiversity, particularly plants that are available on campus in order to prevent extinction and preserve the environment. Autecological research, afforestation, seed-collection and avoidance of plant harvest are all encouraged. The unsustainable utilization of the flora should be discouraged.
Keywords: Biodiversity, Vascular plants, Conservation, Taxonomy, phytogeography, FUNAAB campus.

INTRODUCTION
Plants are widely acknowledged as an essential element of biodiversity and worldwide sustainability. Nigeria is rich in biodiversity because the country is endowed with a variety of plants and animal species found in boundless forests and grasslands. Nigerian plant species occur in different numbers within the country's vegetation which ranges from the rainforest and mangrove swamps along the coast in the South to the Sahel savanna in the North. Despite the relevance of Nigerian flora compared with the surrounding areas, Nigerian plant species are still facing prejudicial challenges from anthropogenic factors and climate change. These ecological dilemmas were directly attributed to high levels of human-induced activities such as habitat destruction through expanding agricultural lands, deforestation, urbanization and pollution in the course of energy generation through firewood, charcoal and industrialization processes. Floristic inventory is a key resource to identify and understand the plant diversity of a given geographical area. It plays an essential role in the process of formulating effective management policies for the conservation of the biodiversity of a region. Marks *et al*. (2009) defined biodiversity as the variation among living organisms on earth from different sources such as terrestrial, marine and desert ecosystems, as well as the ecological complexes to which they belong.

All plants play a role in the ecosystems and have enormous socio-economic importance (Asuk *et al*., 2018). A diverse ecosystem is more productive and can withstand environmental stress, without which human being and animals cannot survive. Plant-rich ecosystems support life and are crucial for human well-being and livelihoods. Contrarily, the loss of plant diversity in different life forms (trees, shrubs, herbs and lianas) has serious economic and social implications in our society. In order to bring orderliness to the vast diversity that exists among plants, plant taxonomists are tasked with the identification, classification and nomenclature of plant species (Taylor *et al*., 2007). Ecological and taxonomic works give the fundamental data needed for biodiversity and conservation that is needed to identify and track the distribution of these plants. Taxonomy plays an essential role in understanding the diversity of life, translating the products of biological research and discovery, such as specimens and observations into systems of names that assign taxa to classification homes.

According to Heywood (2004), taxonomists should reflect on how they responded to the worrisome scenario of ongoing biodiversity loss that has been extensively made public. The importance of taxonomy and floristic studies has been recognized recently by developed countries, who recognized that the combination of inadequate taxonomic knowledge, the shortage of systematists and the inadequacy of sampling, collections, and infrastructure constituted a taxonomic impediment. On this note, plant diversity inventory and floristic investigations must be continued. Plant distribution needs to be documented in order to predict ongoing changes in present ecosystems

(Heywood, 2004). Globally, a proportion of plant species are threatened with extinction in the wild and those that are naturally rare or have narrow distribution are particularly vulnerable. Maintenance of naturalness (nativity) and endemism of the ecosystem has become a big challenge. The extinction of the indigenous species has caused biodiversity reduction, habitat loss and alteration of natural ecological processes.

Many economic plant species are subjected to spontaneous gathering**,** which reduces the number and size of natural habitats, disrupts the natural balance in communities and leads to population deterioration. The study of the ecological and botanical features of natural populations of plants continues to be a priority in biodiversity conservation strategies, while scientists around the world continue to be interested in assessing biodiversity and distribution. Different scientists have documented species existing in different locations in Nigeria (Ayodele and Yang, 2012; Aigbokhan, 2014; Chukwuma *et al*., 2020). However, some authors have noted the various plant taxa that are threatened or endangered, as well as the continuous threats to these species globally, especially in Nigeria (Borokini, 2013; Soladoye *et al*., 2015; Danjuma and Abubakar, 2017). As more than ever, plant species are being utilised to monitor the effects of global change on both human beings and the environment, making the threats to the survival of biological collections ironical in nature.

The extensive use of natural plants in Nigeria has led to the disappearance of the plants. The need for floristic diversity assessment and conservation of plant species in all Nigerian ecological zones is a cause for concern. Kolawole *et al*. (2021) noted that in Nigeria, conservation studies are rare, while Danjuma and Abubakar (2017) reported that there is currently no accurate database that contains all botanicals found in the country. Thus, a species that is considered to be abundant might be on the verge of extinction if effective measures for its conservation are not implemented. Given the recent risks posed by global warming, deforestation and rising urbanisation, it is important to conduct a floristic diversity assessment of our forests and ecosystems on a regular basis. This study is part of an initiative to raise conservation awareness in Nigeria and other African nations. Considering the various and ongoing threats that infrastructure development poses to species availability, this study intended to compile a list of every vascular plant species that are found in the study area. Like many ecosystems, the study area has been subjected to a variety of human-induced activities including vegetation removal for buildings, road construction, agricultural lands, recreational parks, and the development of a sport complex. Also, indiscriminate plant collections for economic and medical interests add to biodiversity loss on university campuses. In a delicate situation where plant genetic resources are rapidly being depleted, it is critical to have a record of the vegetation of our great tertiary institutions, as part of the steps to preserve and mitigate the depletion of the plant species and ecosystems caused by indiscriminate use and abuse by the locals. It is in this context that we undertook the study of the vascular flora of the Federal University of Agriculture Abeokuta (FUNAAB), Ogun State to fill the gaps in the current state of knowledge on the vascular flora of the study area which has not yet been explored in-depth and to characterize the biology, ecology, biogeography and growth forms of vascular plants for better management and conservation of these natural resources. No purely floristic study has been conducted in FUNAAB campus except for the habitat use strategy of vertebrates in Alabata Strict Nature Reserve, Abeokuta (Shotuyo *et al*., 2017) which identified 118 plants in the study area. Therefore, the aim of this study was to document all current vascular plants within the main campus of FUNAAB, as well as to highlight the importance of pragmatic conservation in preserving the species richness and its habitat for the conservation strategy of our natural heritage.

MATERIALS AND METHODS

Study Area

The intensive field survey was carried out within the main campus of the Federal University of Agriculture Abeokuta (FUNNAB), Ogun State (Figure 1). The University has a land area of 10,200 hectares in Odeda Local Government Area in the North Eastern part of Abeokuta, Ogun State, Nigeria. FUNNAB campus is geographically located between latitudes 7°13'47.14" N – 7°14'25.98" N and longitudes 3°26'21.44" E – 3°26'58.97" E. The landmass of the studied area is of varying altitude with lower and highest elevation ranges from 51 m to 148 m (486 feet) above sea level. Federal University of Agriculture Abeokuta vegetation belongs to the rainforest zone and it is characterised by a mix of secondary forest, marshy areas and regrowth vegetation where plants have been previously removed for farming activities. The area is composed of different life forms including floral and faunal species which have played various roles in the maintenance of the surrounding ecosystems.

Field Survey and Data Collection

The specimen collection from the study area and its assessment were conducted using the line transect sampling methods and direct on-site field observations for all vascular plants encountered in 30 different locations. The samples were collected and enumerated between February, 2022 and November, 2023. A plant survey was conducted at the sites and a list of every species of plants identified in the locations was created. All indicators of plant occurrence and activity in the plots sampled were noted. Plants collected include various life forms viz: lianas, herbs, shrubs, trees, vines, geophytes and epiphytes. The plant

species encountered within the study area were carefully identified and named with the help of illustrated manuals, printed floras, checklists and taxonomic keys in literature (Keay *et al*., 1964; Hutchinson *et al*., 1972; Olorode, 1984; Gbile, 1986; Keay, 1989; Aigbokhan, 2014; Chukwuma *et al*., 2020). Correct scientific names with the authorities follow the International Plant Name Index (IPNI, 2023) (https://www.ipni.org), Plants of the World Online (POWO, 2021) (https://www.powo.science.kew.org) and APG IV (2016). The phytogeographical origins of all identified plant species were determined with the aid of Plant Resources of Tropical Africa (https://www.prota.org), Flora of West Tropical Africa (https://plants.jstor.org/collection) and GBIF-Global Biodiversity Information Facility (gbif.org) and Burkill (2000). The list of all species comprising their botanical names, families, habits, and common and local names were identified and documented. The assessment of phytogeographical status of all identified plant species was also based on the information provided by the literature sources (Lewis, 1986; Keay, 1989; Ayodele and Yang, 2012; Aigbokhan, 2014). Voucher specimens of all the plants were processed and deposited at FUNAAB Herbarium Abeokuta (FHA) for future reference.

Data Analysis

The life forms of all plant materials were determined, and phytogeographical analysis was carried out. Data collection on the phytogeographical types of the various taxa is based on Kingsley *et al.* (2017); Fennane (2021). The practical flora of Nigeria (Keay, 1989; Ayodele and Yang, 2012; Kingsley *et al.*, 2017) was used to determine the phytogeographical origin of the study area. Quantitative data collected were coded and recorded on cards for analysis. Microsoft Excel 365 and Statistical Package for Social Science (SPSS) version 23 were used to input and analyse these data. All data were analysed through frequency distributions and descriptive statistics.

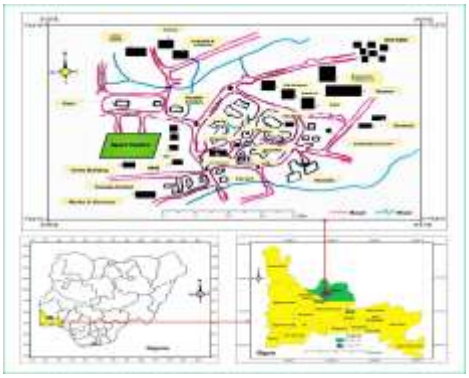

Figure 1: Geographical location map of the study area (generated using QGIS, 2023).

RESULTS

The findings of a floristic investigation revealed that two hundred and sixty-nine (269) vascular plant species affiliated to two hundred and fifteen (215) genera and seventy-two (72) families were collected and identified in the Federal University of Agriculture Abeokuta (FUNAAB) campus (Tables 1-3) at elevations ranging from 51 to 148 m (486 feet) above sea level. Morphological photographs of some voucher specimens collected during the field survey are shown in Figures 2–5, while Table 1 lists the species, as well as their family names, local names, habits, voucher numbers, and origins. Number of genera, species composition and summary of the floristic diversity of the study area are presented in Tables 2 and 3, respectively. The analysis of flora showed a relatively higher representation of Angiosperm species (261), followed by Pteridophytes (5 species: *Nephrolepis* biserrata (Swartz) Schott., *Nephrolepis exaltata* (L.) Schott., *Platycerium bifurcatum* (Cav.) C. Chr., *Platycerium stemaria* (P.Beauv.) Desv. and *Pteris atrovirens* Willd.) and Gymnospermae (3 species: *Araucaria heterophylla* (Salisb.) Franco, *Cycas revoluta* Thunb. and *Thuja occidentalis* L.) (Table 3). Of which, the largest represented families dominating the flora of ecosystems of FUNAAB campus were Fabaceae (34 species, 12.6%), Euphorbiaceae (21 species, 7.8%), Malvaceae (19 species, 7.1%) and Asteraceae (16 species, 5.9%), followed by Poaceae (12 species, 4.4%), Apocynaceae (11 species, 4.1%) and Amaranthaceae (10 species, 2.6%) respectively (Table 2, Figure 6A). Arecaceae and Moraceae families possessed seven (7) species each whereas eight families had five (5) species each, three families had four (4) species each, six families had 3 species each and sixteen had 2 only (Table 2, Figure 6A). The remaining 30 families contain only one species (Tables 1-2). The genus *Ficus* had the highest species representation (6 species) narrowly followed by genus *Euphorbia* with 5 species (Figure 6B). Genera *Acalypha* L., *Hibiscus* L. and *Senna* Mill. were characterised by 4 species each, whereas *Amaranthus* L., *Commelina* L., *Dioscorea* L., *Ipomoea* L., *Jatropha* L. and *Sida* L. possessed 3 species each. Twenty-four (24) genera had 2 species only while the remaining 180 genera were represented by 1 species each (Table 1, Figure 6B). The majority of documented species were herbs, constituting 31.23% (84 species) of the plant habits identified (Figure 7A). This was followed narrowly by trees (83 species, 30.85%) and shrubs (61 species, 22.68%), while 19 species were vines (7.06%), 13 species were lianas (4.83%), 5 species were geophytes (1.86%) and 4 species were epiphytic plants (1.49%) (Figure 7A).

Phytogeographically, there were more native plant species (156 species, 57.99%) in the study area than exotic (86 species, 31.97%), pantropical (16 species, 5.95%) and cosmopolitan species (11 species, 4.09%) (Figure 7A). Interestingly, across all the study sites visited, there were

farm settings within the campus. The following plant crops, *Musa paradisiaca* L., *M. sapientum* L., *Dioscorea alata* L., *D. rotundata* Poir., *Abelmoschus esculentus* (L.) Moench., *Capsicum chinense*, *Solanum lycopersicum* L., *Corchorus olitorius* L., *Ipomoea batatas* (L.) Lam., *Manihot esculenta* Crantz and *Zea mays* L. were noted to be growing abundantly with a tall and wide-ranging stalk across sampling locations. Most of the plants identified had at least one economic importance which include, but not limited to sources of food, herbal medicine and forage, ornamental and silvicultural purposes. Commonly encountered plants in study area were *Anacardium occidentale* L., *Tectona grandis* L.f., *Gmelina arborea* Roxb., *Hura crepitans* L., *Anogeissus leiocarpus* (DC.) Guill. & Perr., *Ixora coccinea* L., *Sida acuta* Burm.f., *Peperomia pellucida* (L.) Kunth, *Cassia fistula* L., *Acalypha indica* L., *Thuja occidentalis* L., *Nephrolepis biserrata* (Swartz) Schott, *Elaeis guineensis* Jacq., *Samanea saman* (Jacq.) Merr. and *Terminalia mantaly* H. Perrier.

Figure 2. A-F: Morphological pictorials of (A) *Araucaria heterophylla*; (B) *Enterolobium cyclocarpum*; (C) *Hildegardia barteri*; (D) *Hura crepitans*; (E) *Anogeissus leiocarpus*; (F) *Terminalia mantaly*.

Figure 3: A-K: Morphological pictorials of (A) *Tectona grandis*; (B) *Ceiba pentandra*; (C) *Samanea saman*; (D) *Parkia biglobosa*; (E) *Vitellaria paradoxa*; (F) *Spathodea campanulata*; (G) *Adansonia digitata*; (H) *Tabebuia rosea*; (I) *Milicia excelsa*; (J) *Albizia lebbeck*; (K) *Polyalthia suaveolens*.

.

Figure 4. A-L: Morphological pictorials of (A) *Acalypha hispida*; (B) *Hibiscus tiliaceus*; (C) *Cereus hexagonus*; (D) *Opuntia engelmannii*; (E) *Caryota mitis*; (F) *Thunbergia erecta;* (G) *Duranta erecta*; (H) *Hellenia speciosa*; (I) *Wodyetia bifurcata*; (J) *Allamanda cathartica*; (K) *Polyscias balfouriana*; (L) *Turnera ulmifolia*.

Figure 5. A-E: Morphological pictorials of (A) *Thuja occidentalis*; (B) *Platycerium bifurcatum* on *Elaeis guineensis*; (C) *Platycerium stemaria* on *Samanea saman*; (D) *Nephrolepis biserrata*; (E) *Cassia fistula*

DISCUSSION

Our broad ecological sampling presents a detailed checklist of floristic diversity and species distribution of vascular plants in the Federal University of Agriculture Abeokuta (FUNAAB) main campus. Thus, it adds to the existing knowledge and provides valuable information for the conservation of the habitats and their threatened plant species. However, human activities have led to the depletion of global genetic resources (Kolawole *et al*., 2021). It was observed during this study that a lot of land clearing for the construction of buildings like lecture auditoriums, laboratories, offices, parking spaces and hostel accommodation within the campus is unavoidable.

Table 1: List of plant species identified within the study area

S/N	BOTANICAL NAME	FAMILY NAME	COMMON NAME	LOCAL NAME (YORUBA)	HABIT	ORIGIN	VOUCHER NO.
1.	*Abelmoschus esculentus* (L.) Moench.	Malvaceae	Okra	Ila	Shrub	Cosmopolitan	FHA 4340
2.	*Abrus precatorious* L.	Fabaceae	Rosary Pea	Omisinmisin, Oju-Ologbo	Herb	Native	FHA 4316
3.	*Acalypha godseffiana* hort. Sander ex Mast.	Euphorbiaceae	Beafsteak	Jinwinni	Shrub	Exotic	FHA 4382
4.	*Acalypha hispida* Burm.f.	Euphorbiaceae	Red-Hot Cat's Tail		Shrub	Exotic	FHA 3785
5.	*Acalypha indica* L.	Euphorbiaceae	Indian Acalypha	Jiwinni	Herb	Native	FHA 3792
6.	*Acalypha wilkesiana* Müll.Arg.	Euphorbiaceae	Copperleaf	Aworoso	Shrub	Pantropical	FHA 3809
7.	*Acanthospermum hispidum* DC.	Asteraceae	Hispid starburr	Dagunro-gogoro	Herb	Native	FHA 4346
8.	*Adansonia digitata* L.	Malvaceae	African Baobab	Ose	Tree	Native	FHA 4534
9.	*Adenopus breviflorus* Benth.	Cucurbitaceae	Wild colocynth	Tagiri	Vine	Native	FHA 3860
10.	*Adonidia merrillii* Becc.	Arecaceae	Manila Palm		Tree	Exotic	FHA 4135
11.	*Aerva lanata* (L.) Juss. ex Schult.	Amaranthaceae	Mountain Knotgrass	Ewe-owo	Herb	Native	FHA 4142
12.	*Ageratum conyzoides* L.	Asteraceae	Billygoat-Weed	Imi-esu	Herb	Native	FHA 4281
13.	*Alafia barteri* Oliv.	Apocynaceae	Alafia chewing stick	Agbari-etu	Liana	Native	FHA 4127
14.	*Albizia lebbeck* (L.) Benth	Fabaceae	Woman's Tongue Tree	Igbago	Tree	Exotic	FHA 4334
15.	*Albizia zygia* (DC.) J.F. Macbr.	Fabaceae	West African Albizia	Ayunre-weere	Tree	Native	FHA 4336
16.	*Alchornea cordifolia* (Schum. & Thonn.) Müell.Arg.	Euphorbiaceae	Christmas Bush	Eepa	Shrub	Native	FHA 4128
17.	*Allamanda cathartica* L.	Apocynaceae	Golden-Trumpet	Allamonda	Shrub	Exotic	FHA 4139
18.	*Allamanda schottii* Pohl.	Apocynaceae	Bush Allamanda		Shrub	Exotic	FHA 4115
19.	*Allophylus africanus* P. Beauv.	Sapindaceae	African False Currant	Eekan-ehoro	Tree	Native	FHA 3867
20.	*Alstonia boonei* De Wild	Apocynaceae	Stool Wood	Ahun	Tree	Native	FHA 3882
21.	*Alternanthera repens* (L.) Kuntze	Amaranthaceae	Joy Weed	Dagunro	Herb	Native	FHA 4124
22.	*Alternanthera sessilis* (L.) R.Br. ex DC.	Amaranthaceae	Dwarf Copperleaf	Saje	Herb	Exotic	FHA 3885
23.	*Amaranthus hybridus* L.	Amaranthaceae	Smooth Amaranth	Tete-atetedaye	Herb	Native	FHA 3878
24.	*Amaranthus spinosus* L.	Amaranthaceae	Spiny Amaranth	Tete elegun	Herb	Exotic	FHA 4129
25.	*Amaranthus viridis* L.	Amaranthaceae	Green Amaranth	Efo-tete	Herb	Native	FHA 3884
26.	*Ambrosia artemisiifolia* L.	Asteraceae	Ragweed		Herb	Exotic	FHA 4401
27.	*Anacardium occidentale* L.	Anacardiaceae	Cashew	Kasu	Tree	Exotic	FHA 4147
28.	*Ananas comosus* (L.) Merr.	Bromeliaceae	Pineapple	Ope-oyinbo	Herb	Pantropical	FHA 3875
29.	*Andrographis paniculata* (Burm.f.) Nees	Acanthaceae	Green Chireta, Creat	Mejemeje	Herb	Exotic	FHA 4140
30.	*Andropogon gayanus* Kunth	Poaceae	Gambia Grass	Eruwa-funfun	Herb	Native	FHA 3887
31.	*Andropogon tectorum* Schumach. & Thonn.	Poaceae	Beard Grass	Eruwa-dudu	Herb	Native	FHA 3819
32.	*Anogeissus leiocarpus* (DC.) Guill. & Perr.	Combretaceae	African Birch	Ayin, Orin-odan	Tree	Native	FHA 4328
33.	*Annona squamosa* L.	Annonaceae	Sugar Apple	Shap-shap	Tree	Exotic	FHA 4381
34.	*Anonidium mannii* (Oliv.) Engl. & Diels	Annonaceae	Junglesop	Ewuro-igbo	Tree	Native	FHA 3815

35.	*Anthocleista nobilis* G. Don	Gentianaceae	Cabbage Tree	Ogugu	Tree	Native	FHA 3857
36.	*Anthocleista vogelii* Planch.	Gentianaceae	Murderer's Mat	Sapo	Tree	Native	FHA 3845
37.	*Araucaria heterophylla* (Salisb.) Franco	Araucariaceae	Norfolk Island Pine		Tree	Exotic	FHA 4507
38.	*Argemone mexicana* L.	Papaveraceae	Mexican Poppy	Mafowokan-omo-mi	Herb	Native	FHA 3812
39.	*Aristolochia ringes* Vahl.	Aristolochiaceae	Dutchman Pipe	Paran funfun	Vine	Exotic	FHA 4383
40.	*Aspilia africana* (Pers.) C.D. Adams	Asteraceae	Wild Sunflower	Yunyun	Herb	Native	FHA 3851
41.	*Axonopus compressus* (SW.) P. Beauv.	Poaceae	Carpet Grass	Idi	Herb	Exotic	FHA 3802
42.	*Azadirachta indica* A. Juss.	Meliaceae	Neem Tree	Dogonyaro	Tree	Exotic	FHA 3874
43.	*Bambusa vulgaris* Schrad. ex J.C.Wendl.	Poaceae	Bamboo	Oparun	Shrub	Exotic	FHA 4131
44.	*Baphia nitida* G. Lodd.	Fabaceae	African Sandalwood	Iyerosun	Shrub	Native	FHA 3886
45.	*Bauhinia monandra* Kurz.	Fabaceae	Pink butterfly	Abafe	Tree	Native	FHA 4415
46.	*Basella alba* L.	Basellaceae	African Spinach	Amunututu	Vine	Native	FHA 4138
47.	*Begonia aconitifolia* A.DC.	Begoniaceae	Angel Wing Begonia		Shrub	Exotic	FHA 3876
48.	*Bidens pilosa* L.	Asteraceae	Black Jack	Abere-oloko	Herb	Native	FHA 4421
49.	*Blighia sapida* K.D. Koen.	Sapindaceae	Ake-Apple	Isin	Tree	Native	FHA 4508
50.	*Boerhavia diffusa* L.	Nyctaginaceae	Spreading Hogweed	Olowojeja	Herb	Native	FHA 4414
51.	*Bombax buonopozense* P. Beauv.	Malvaceae	Gold Coast Bombax	Ponpola	Tree	Native	FHA 3825
52.	*Bougainvillea glabra* Choisy	Nyctaginaceae	Paper Flower	Bongenfilia	Vine	Exotic	FHA 4388
53.	*Brassica oleracea* L.	Brassicaceae	Wild Cabbage plant	Gbegi	Herb	Native	FHA 3821
54.	*Bridelia ferruginea* Benth.	Phyllanthaceae	Bridelia	Ira-odan	Shrub	Native	FHA 4512
55.	*Bryophyllum pinnatum* (Lam.) Oken	Crassulaceae	Life plant	Ewe-Abamoda	Herb	Native	FHA 4141
56.	*Caesalpinia pulcherrima* L.	Fabaceae	Barbados Flower	Eko-omode	Shrub	Pantropical	FHA 4405
57.	*Caladium bicolor* (Aiton) Vent.	Araceae	Height of Jesus	Eje-jesu	Herb	Exotic	FHA 3814
58.	*Calendula officinalis* L.	Asteraceae	Pot Marigold	Ododo-maria	Herb	Exotic	FHA 4389
59.	*Calopogonium mucunoides* Desv.	Fabaceae	Crab Grass		Vine	Native	FHA 3852
60.	*Calotropis procera* (Aiton) Aiton Fil.	Apocynaceae	Sodom-Apple	Bomubomu	Shrub	Native	FHA 3811
61.	*Cardiospermum halicacabum* L.	Sapindaceae	Balloon plant	Shaworo	Liana	Native	FHA 4372
62.	*Carica papaya* L.	Caricaceae	Pawpaw	Ibepe	Herb	Exotic	FHA 4258
63.	*Caryota mitis* Lour.	Arecaceae	Tufted Fishtail Palm		Tree	Exotic	FHA 4393
64.	*Caryota urens* L.	Arecaceae	Jaggery Palm		Tree	Exotic	FHA 3845
65.	*Cascabela thevetia* L.	Apocynaceae	Yellow Oleander	Olomiojo	Shrub	Cosmopolitan	FHA 4400
66.	*Cassia fistula* L.	Fabaceae	Golden Shower	Aridan-tooro	Tree	Cosmopolitan	FHA 4259
67.	*Cassia sieberiana* DC.	Fabaceae	Drumstick tree	Ifo	Shrub	Native	FHA 4375
68.	*Casuarina equisetifolia* L.	Casuarinaceae	Whistling tree	Kasuarina	Tree	Exotic	FHA 3829
69.	*Catharanthus roseus* (L.) G.Don	Apocynaceae	Rose Periwinkle	Apabida pupa	Herb	Native	FHA 4386
70.	*Ceiba pentandra* (L.) Gaertn.	Malvaceae	Silk Cotton Tree	Araba	Tree	Native	FHA 3813
71.	*Celosia argentea* L.	Amaranthaceae	Cockscomb	Sokoyokoto	Herb	Pantropical	FHA 3822
72.	*Celosia trigyna* L.	Amaranthaceae	Wool-Flower	Ajefowo	Herb	Native	FHA 3805
73.	*Centrosema pubescens* Benth.	Fabaceae	Centro, Butterfly Pea	Ewa-Ahun	Vine	Exotic	FHA 4473

74.	*Cereus hexagonus* (L.) Mill.	Cactaceae	Queen-of-Night Cactus		Shrub	Exotic	FHA 4510
75.	*Chromolaena odorata* (L.) R.M.King & H.Ro.	Asteraceae	Siam Weed	Akintola	Shrub	Exotic	FHA 4502
76.	*Chrysophyllum albidum* G.Don	Sapotaceae	Star Apple	Agbalumo	Tree	Native	FHA 4469
77.	*Chrysophyllum cainito* L.	Sapotaceae	Purple Star Apple	Kaimito	Tree	Exotic	FHA 4332
78.	*Cissampelos owariensis* P. Beauv. ex DC.	Menispermaceae	Velvet Leaf	Ewe jokoje	Liana	Native	FHA 3826
79.	*Citrus reticulata* Blanco	Rutaceae	Tangerine	Tangarini	Tree	Exotic	FHA 4326
80.	*Citrus sinensis* (L.) Osbeck	Rutaceae	Sweet Orange	Osan mimu	Tree	Exotic	FHA 4327
81.	*Cleome rutidosperma* DC.	Cleomaceae	Fringed Spider-Flower	Ekuya-aaja	Herb	Native	FHA 4384
82.	*Cnidoscolus aconitifolius* (Mill.) I.M.Johnst.	Euphorbiaceae	Tree Spinach,	Iyana-ipaja	Shrub	Native	FHA 3823
83.	*Cocos nucifera* L.	Arecaceae	Coconut Tree	Agbon	Tree	Exotic	FHA 4391
84.	*Codiaeum variegatum* (L.) A. Juss.	Euphorbiaceae	Variegated Croton		Shrub	Exotic	FHA 3817
85.	*Cola nitida* (Vent.) Schott & Endl.	Malvaceae	Kolanut	Obi-gbanja	Tree	Native	FHA 3820
86.	*Colocasia esculenta* (L.) Schott.	Araceae	Cocoyam	Koko funfun	Herb	Exotic	FHA 4374
87.	*Combretum racemosum* P. Beauv.	Combretaceae	Bushwillows	Ogan-pupa	Liana	Native	FHA 4519
88.	*Combretum zenkeri* Engl. & Diels	Combretaceae	White Bushwillow	Ogan-ibule	Liana	Native	FHA 4466
89.	*Commelina benghalensis* L.	Commelinaceae	Benghal Dayflower	Gbagodo	Herb	Native	FHA 4468
90.	*Commelina erecta* L.	Commelinaceae	White-mouth Dayflower	Apolukuluku	Herb	Native	FHA 4523
91.	*Commelina nudiflora* L.	Commelinaceae	Spreading Dayflower	Godogbo-odo	Herb	Pantropical	FHA 4496
92.	*Corchorus olitorius* L.	Malvaceae	Jute	Ewedu, Ooyo	Herb	Native	FHA 4484
93.	*Cordia millenii* Bak.	Boraginaceae	Drum Tree	Omo	Tree	Native	FHA 4419
94.	*Costus afer* Ker-Gawl	Zingiberaceae	Ginger Lily	Ireke-omode	Herb	Native	FHA 3847
95.	*Crassocephalum rubens* (Juss. ex Jacq) S.Moore	Asteraceae	Fireweed	Ebolo, Efo-ebure	Herb	Native	FHA 3830
96.	*Crotalaria retusa* L.	Fabaceae	Rattleweed	Saworo	Herb	Native	FHA 4323
97.	*Croton zambesicus* Müll.Arg.	Euphorbiaceae	Lavender Croton	Ajekobale	Tree	Native	FHA 4256
98.	*Curculigo pilosa* (Schum. & Thonn.) Engl.	Hypoxidaceae	Ear of the Donkey	Epakun	Herb	Native	FHA 3849
99.	*Cyathula prostrata* (L.) Blume	Amaranthaceae	Pasture Weed	Areyin-kosun	Herb	Native	FHA 3854
100.	*Cycas revoluta* Thunb.	Cycadaceae	Sago Palm		Tree	Exotic	FHA 4394
101.	*Cymbopogon citratus* (DC.) Stapf.	Poaceae	Lemon Grass	Kooko-oba	Herb	Native	FHA 4390
102.	*Cyperus articulatus* L.	Cyperaceae	Jointed Flatsedge	Eni-ore	Herb	Native	FHA 4284
103.	*Dalbergia lactea* Vatke.	Fabaceae	Flat Bean	Ojiji	Shrub	Native	FHA 4395
104.	*Delonix regia* (Bojer ex Hook.) Raf.	Fabaceae	Flame-Of-The-Forest	Sekeseke	Tree	Exotic	FHA 3855
105.	*Desmodium triflorum* (L.) DC.	Fabaceae	Creeping Tick	Emo	Herb	Pantropical	FHA 3859
106.	*Desmodium velutinum* (Willd) DC.	Fabaceae	Velvet-leaf Desmodium	Aberodefe	Subshrub	Native	FHA 4399
107.	*Dioscorea alata* L.	Dioscoreaceae	Water Yam	Ewura	Vine	Native	FHA 4371
108.	*Dioscorea bulbifera* L.	Dioscoreaceae	Aerial Yam	Isu-ahun	Vine	Native	FHA 3856
109.	*Dioscorea rotundata* Poir.	Dioscoreaceae	White Yam	Isu-funfun	Vine	Native	FHA 3828
110.	*Dracaena mannii* Baker	Asparagaceae	Asparagus Tree	Peregun	Tree	Native	FHA 4377
111.	*Duranta erecta* L.	Verbenaceae	Golden Dewdrops	Adodo-yellow	Shrub	Exotic	FHA 4398

112.	*Duranta repens* L.	Verbenaceae	Pigeon Berry		Shrub	Exotic	FHA 4368
113.	*Eichhornia crassipes* (Mart.) Solms	Pontederiaceae	Water Hyacinth	Ayacinti	Herb	Pantropical	FHA 3858
114.	*Elaeis guineensis* Jacq.	Arecaceae	African Oil Palm	Ope	Tree	Native	FHA 4397
115.	*Eleusine indica* (L.) Gaertn.	Poaceae	Wire Grass	Gbegi	Herb	Cosmopolitan	FHA 3881
116.	*Emilia coccinea* (Sims.) G.Don.	Asteraceae	Scarlet Tassel Flower	Odundun-odo	Herb	Native	FHA 4130
117.	*Enantia chlorantha* Oliv.	Annonaceae	African Yellow Wood	Awopa	Tree	Native	FHA 4417
118.	*Entandrophragma utile* (Dawe & Spr.) Spr.	Meliaceae	Sipo, Mahogany	Ijebo	Tree	Native	FHA 4451
119.	*Enterolobium cyclocarpum* (Jacq.) Griseb.	Fabaceae	Elephant Ear Tree		Tree	Native	FHA 4402
120.	*Euphorbia heterophylla* L.	Euphorbiaceae	Mexican Fire-plant	Tebaje	Herb	Native	FHA 4434
121.	*Euphorbia hirta* L.	Euphorbiaceae	Asthma plant	Emi-ile	Herb	Native	FHA 4396
122.	*Euphorbia kamerunica* Pax.	Euphorbiaceae	Spurge	Oro agogo	Tree	Native	FHA 4387
123.	*Euphorbia milii* Des. Moul.	Euphorbiaceae	Christmas plant		Shrub	Exotic	FHA 4392
124.	*Euphorbia tithymaloides variegata* L.	Euphorbiaceae	Zigzag plant		Shrub	Exotic	FHA 4369
125.	*Ficus benjamina* L.	Moraceae	Weeping Fig		Tree	Native	FHA 4119
126.	*Ficus capensis* Thunb.	Moraceae	Cape Fig	Opoto	Tree	Native	FHA 4425
127.	*Ficus exasperata* Vahl.	Moraceae	Forest Sandpaper Fig	Epin	Tree	Native	FHA 4454
128.	*Ficus hispida* L.f.	Moraceae	Hairy Fig		Shrub	Native	FHA 4455
129.	*Ficus mucuso* Welw. ex Ficalho	Moraceae	Mucus Fig	Odan-afomo	Tree	Native	FHA 4456
130.	*Ficus retusa* L.	Moraceae	Cuban-Laurel		Tree	Native	FHA 4426
131.	*Gliricidia sepium* (Jacq) Kunth ex Walp.	Fabaceae	Quickstick	Agunmaniye	Shrub	Native	FHA 4430
132.	*Gloriosa superba* L.	Colchicaceae	Flame-lily	Akalamagbo	Vine	Native	FHA 4458
133.	*Glyphaea brevis* (Spreng.) Monach.	Malvaceae	Masquerade Stick	Atori	Shrub	Native	FHA 4444
134.	*Gmelina arborea* Roxb.	Lamiaceae	Beechwood	Melina	Tree	Exotic	FHA 4464
135.	*Gomphrena celosioides* Mart.	Amaranthaceae	Bachelor's Button	Ipopo-ale	Herb	Exotic	FHA 4448
136.	*Gossypium hirsutum* L.	Malvaceae	Cotton seed	Owu	Shrub	Native	FHA 4433
137.	*Helianthus annuus* L.	Asteraceae	Common Sunflower		Herb	Exotic	FHA 4492
138.	*Heliotropium indicum* L.	Boraginaceae	Indian Turnsole	Ogbe ori-akuko	Herb	Native	FHA 4497
139.	*Hellenia speciosa* (J.Koenig) S.R.Dutta	Costaceae	Cane Ginger		Shrub	Exotic	FHA 4459
140.	*Hibiscus rosa-sinensis* L.	Malvaceae	Hibiscus flower	Ododo-pupa	Shrub	Pantropical	FHA 4461
141.	*Hibiscus schizopetalus* (Mast.) Hook.f.	Malvaceae	Campanilla		Shrub	Exotic	FHA 4445
142.	*Hibiscus tiliaceus* L.	Malvaceae	Sea Hibiscus		Shrub	Exotic	FHA 4446
143.	*Hibiscus surattensis* L.	Malvaceae	Wild Sour	Sinkinmini	Herb	Native	FHA 4465
144.	*Hildegardia barteri* (Mast.) Kosterm.	Malvaceae	Hildegardia	Okurugbedu	Tree	Native	FHA 4450
145.	*Holarrhena pubescens* Wall. ex G.Don	Apocynaceae	Ivory Tree	Ako-ire	Tree	Native	FHA 4493
146.	*Hura crepitans* L.	Euphorbiaceae	Sandbox Tree	Kerembuje	Tree	Native	FHA 4498
147.	*Hymenostegia afzelii* (Oliv.) Harms.	Fabaceae	Hymenostegia afzelii	Arigbodigbo	Tree	Native	FHA 4463
148.	*Icacina trichanta* Oliv.	Icacinaceae	False yam	Gbegbe	Liana	Native	FHA 4120
149.	*Imperata cylindrica* (L.) P. Beauv.	Poaceae	Cogongrass	Ekan	Herb	Native	FHA 4499
150.	*Ipomoea aquatica* Forssk.	Convolvulaceae	Water spinach	Odunkun-odo	Vine	Native	FHA 3807

151.	*Ipomoea batatas* (L.) Lam.	Convolvulaceae	Sweet potato	Odunkun, anamo	Vine	Exotic	FHA 4494
152.	*Ipomoea involucrata* P. Beauv.	Convolvulaceae	Morning glory	Ododo-odo	Vine	Native	FHA 4495
153.	*Isoberlinia doka* Craib & Stapf.	Fabaceae	Doka	Abogo	Tree	Native	FHA 4537
154.	*Ixora coccinea* L.	Rubiaceae	Flame of the Woods	Aisora	Shrub	Exotic	FHA 4428
155.	*Ixora stricta* Roxb.	Rubiaceae	Chinese Ixora		Shrub	Exotic	FHA 4429
156.	*Jatropha curcas* L.	Euphorbiaceae	Physic Nut	Lapalapa	Shrub	Native	FHA 4433
157.	*Jatropha gossypifolia* L.	Euphorbiaceae	Bellyache Bush	Botuje pupa	Shrub	Native	FHA 4453
158.	*Jatropha multifida* L.	Euphorbiaceae	Coral plant	Ogege	Shrub	Native	FHA 4531
159.	*Kalanchoe crenata* (Andrews) Haw.	Crassulaceae	Miracle Leaf, Cathedral Bells	Eti eleti	Herb	Cosmopolitan	FHA 4501
160.	*Khaya senegalensis* (Desr.) A. Juss.	Meliaceae	African Mahogany	Oganwo	Tree	Native	FHA 4317
161.	*Lagenaria breviflora* (Benth.) Roberty	Cucurbitaceae	Wild Colocynth	Taagiri	Vine	Native	FHA 4490
162.	*Lannea acida* A.Rich.	Anacardiaceae	Plum Mango	Agbelepota	Tree	Native	FHA 4117
163.	*Lantana camara* L.	Verbenaceae	Lantana	Ewon-agogo	Shrub	Exotic	FHA 4442
164.	*Laportea aestuans* (L.) Chew.	Urticaceae	Stinging Nettle	Ojongbodu	Herb	Exotic	FHA 4424
165.	*Launea taraxacifolia* (Willd.) Amin ex C. Jeffrey	Asteraceae	Wild Lettuce	Efo yanrin, Odundun odo	Herb	Native	FHA 4467
166.	*Lecaniodiscus cupanioides* Planch. ex Bent.	Sapindaceae	Lecaniodiscus	Akika	Tree	Native	FHA 4432
167.	*Leucaena leucocephala* (Lam.) de Wit.	Fabaceae	White Lead Tree	Ogun bere	Tree	Exotic	FHA 4440
168.	*Lonchocarpus sericeus* (Poir.) Kunth ex DC.	Fabaceae	Savonette	Ipapo	Shrub	Native	FHA 4437
169.	*Luffa cylindrica* M. Roem.	Cucurbitaceae	Loofah Sponge Gourd	Kainkain-ayaba	Vine	Exotic	FHA 4491
170.	*Mallotus oppositifolius* (Geiseler) Müill.Arg.	Euphorbiaceae	Mallotus	Oju eja	Shrub	Native	FHA 4121
171.	*Mangifera indica* L.	Anacardiaceae	Mango	Mangoro	Tree	Exotic	FHA 4314
172.	*Manihot esculenta* Crantz	Euphorbiaceae	Cassava	Ege, Paki	Shrub	Exotic	FHA 4322
173.	*Margaritaria nobilis* L.f	Phyllanthaceae	Bastard Hogberry	Awe arunkuna	Tree	Exotic	FHA 4427
174.	*Mepotium toxiferum* (L.) Krug & Urb.	Anacardiaceae	Florida Poison-tree		Tree	Exotic	FHA 4462
175.	*Mesophaerum suaveolens* (L.) Kuntze.	Lamiaceae	Pignut	Arunfofo	Herb	Exotic	FHA 4443
176.	*Microdesmis puberula* Hook.f. ex Planch.	Pandaceae	Microdesmis	Esunsun, Idi-apata	Tree	Native	FHA 4418
177.	*Milicia excelsa* (Welw.) C.C. Berg.	Moraceae	Iroko	Iroko	Tree	Native	FHA 4431
178.	*Mimosa pigra* L.	Fabaceae	Giant sensitive plant	Ewon-agogo	Shrub	Native	FHA 4457
179	*Mimosa pudica* L.	Fabaceae	Sensitive plant	Patanmo	Vine	Pantropical	FHA 4503
180.	*Momordica charantia* L.	Cucurbitaceae	Bitter Gourd	Ejinrin-aja	Vine	Native	FHA 4367
181.	*Momordica cissoides* Planch. ex Benth.	Cucurbitaceae	Cissoids Momordica	Ako ejirin	Vine	Native	FHA 4488
182.	*Moringa oleifera* Lam.	Moringaceae	Moringa, Drumstick tree	Gbogbonise, Ewe-Igbale	Tree	Native	FHA 4420
183.	*Mucuna pruriens* (L.) DC.	Fabaceae	Cow-witch, Velvet Bean	Werepe	Vine	Native	FHA 4416
184.	*Musa paradisiaca* L.	Musaceae	Plantain	Ogede-agbagba	Herb	Cosmopolitan	FHA 4528
185	*Musa sapientum* L.	Musaceae	Banana	Ogede-were	Herb	Cosmopolitan	FHA 4529
186.	*Myrianthus arboreus* P. Beauv.	Urticaceae,	Giant yellow mulberry,	Ujuju	Tree	Native	FHA 4505

			Soup-tree				
187.	*Nauclea latifolia* Sm.	Rubiaceae	African Peach	Egbesi	Tree	Native	FHA 4514
188.	*Nephrolepis* biserrata (Swartz) Schott	Nephrolepidaceae	Giant Sword Fern	Iramu	Epiphyte	Native	FHA 4472
189.	*Nephrolepis exaltata* (L.) Schott	Nephrolepidaceae	Wild Boston Fern		Herb	Exotic	FHA 4473
190.	*Newbouldia laevis* (P.Beauv.) Seem. ex Bureau.	Bignoniaceae	Boundary Tree	Akoko	Tree	Native	FHA 4524
191.	*Nymphaea lotus* L.	Nymphaceae	White water Lily	Osibata	Geophyte	Native	FHA 4406
192.	*Ocimum basilicum* L.	Lamiaceae	Common Basil	Efinrin-ata	Herb	Native	FHA 4513
193.	*Ocimum gratissimum* L.	Lamiaceae	Clove Basil	Efirin-nla	Shrub	Native	FHA 4521
194.	*Oldenlandia corymbosa* L.	Rubiaceae	Flat-top mille graines	Oyigi	Herb	Native	FHA 4476
195.	*Oplismenus burmannii* (Retz) P. Beauv.	Poaceae	basketgrass	Ite-oka	Herb	Native	FHA 4515
196.	*Opuntia engelmannii* Salm-Dyck	Cactaceae	Cowtongue Cactus	Oro-agogo	Shrub	Exotic	FHA 4487
197.	*Palisota hirsuta* (Thumb.) K. Schu. ex Engl.	Commelinaceae	Palisota	Rogbo-aguntan, Jagborokun	Herb	Native	FHA 3883
198.	*Panicum maximum* Jacq.	Poaceae	Guinea grass	Ikin	Geophyte	Native	FHA 4132
199.	*Parkia biglobosa* (Jacq.) R.Br. ex G.Don	Fabaceae	African locust bean	Iru	Tree	Native	FHA 3865
200.	*Parquetina nigrescens* (Afzel.) Bullock	Apocynaceae	African Parquetina	Ewe-ogbo	Liana	Native	FHA 4126
201.	*Paullinia pinnata* L.	Sapindaceae	Supple Jack	Isu-omode	Liana	Native	FHA 4408
202.	*Pennisetum purpureum* Schumach	Poaceae	Elephant Grass	Eesu-ikan	Geophyte	Native	FHA 4460
203.	*Peperomia pellucida* (L.) Kunth	Piperaceae	Silver Bush	Rinrin	Herb	Exotic	FHA 4517
204.	*Persea americana* Mill.	Lauraceae	Avocado pear	Ewe pia	Tree	Exotic	FHA 4482
205.	*Petiveria alliacea* L.	Petiveriaceae	Guinea-hen weed	Awogba	Herb	Native	FHA 4520
206.	*Phyllanthus amarus* Schumach. & Thonn.	Phyllanthaceae	Hurricane Weed	Eyin-olobe	Herb	Exotic	FHA 4509
207.	*Piliostigma thonningii* (Schum.) Milne-Redh.	Fabaceae	Camel's foot tree	Abafe	Tree	Native	FHA 4474
208.	*Pistia stratiotes* L.	Araceae	Water Lettuce	Ojuoro	Herb	Native	FHA 4470
209.	*Platycerium bifurcatum* (Cav.) C. Chr.	Polypodiaceae	Staghorn Fern	Tiran	Epiphyte	Pantropical	FHA 4412
210.	*Platycerium stemaria* (P.Beauv.) Desv.	Polypodiaceae	Cabbage Fern		Epiphyte	Exotic	FHA 4413
211.	*Poikilospermum suaveolens* (Blume) Merr.	Urticaceae	Akar Murah		Liana	Exotic	FHA 4449
212.	*Polyalthia longifolia* (Sonn.) Thwaites	Annonaceae	Masquerade tree	Igi-egun	Tree	Exotic	FHA 4422
213.	*Polyalthia suaveolens* Engl. et Diels	Annonaceae	Otounga	agudugbu	Tree	Native	FHA 4423
214.	*Polyscias balfouriana* (André) L.H. Bailey	Araliaceae	Balfour aralia		Shrub	Exotic	FHA 4452
215.	*Psidium guajava* L.	Myrtaceae	Guava	Guafa	Tree	Pantropical	FHA 4339
216.	*Pteris atrovirens* Willd.	Pteridaceae	Brake fern	Imo-osun	Geophyte	Native	FHA 4379
217.	*Quisqualis indica* L.	Combretaceae	Rangoon Creeper	Ogan-funfun	Liana	Native	FHA 4475
218.	*Rauvolfia vomitoria* L. Afzel.	Apocynaceae	Swizzle stick	Asofeyeje	Shrub	Native	FHA 4500
219.	*Ricinus communis* L.	Euphorbiaceae	Castor oil plant	Laraa	Shrub	Native	FHA 4486
220.	*Roystonea regia* (Kunth) O.F. Cook	Arecaceae	Cuban Royal Palm		Tree	Exotic	FHA 4479
221.	*Rytigynia nigerica* (S. Moore) Robyns	Rubiaceae	Eye of fish	Oju-eja	Shrub	Native	FHA 4532
222.	*Samanea saman* (Jacq.) Merr.	Fabaceae	Saman, Rain tree		Tree	Exotic	FHA 4511
223.	*Sansevieria trifasciata* (Prain) Mabb.	Asparagaceae	Snake plant	Oja-ikooko	Herb	Native	FHA 4506

224.	*Scleria depressa* (C.B.Clarke) Nelmes	Cyperaceae	Sword Grass	Labelabe	Herb	Native	FHA 4477
225.	*Secamone afzelii* (Schult.) K. Schum.	Apocynaceae	Secamone afzelii	Arilu	Liana	Native	FHA 3869
226.	*Senna alata* (L.) Roxb.	Fabaceae	Candle Bush	Asunwon	Shrub	Pantropical	FHA 4533
227.	*Senna occidentalis* (L.) Link.	Fabaceae	Wooly-senna	Abo-rere	Tree	Pantropical	FHA 3888
228.	*Senna siamea* (Lam.) H.S. Irwin & Barneby	Fabaceae	Yellow cassia	Kasia	Tree	Native	FHA 4123
229.	*Senna surattensis* (Burm.f.) H.S.Irwin & Barn.	Fabaceae	Golden senna		Shrub	Pantropical	FHA 4144
230.	*Setaria barbata* (Lam.) Kunth	Poaceae	Bristly Foxtail Grass	Ponipon	Geophyte	Native	FHA 3870
231.	*Sida acuta* Burm.f.	Malvaceae	Wireweed	Iseketu	Herb	Pantropical	FHA 3880
232.	*Sida cordifolia* L.	Malvaceae	Flannel weed	Iso-obo	Herb	Exotic	FHA 4133
233.	*Sida rhombifolia* L.	Malvaceae	Arrowleaf Sida	Ewe-ifin	Herb	Cosmopolitan	FHA 4118
234.	*Solanum lycopersicum* L.	Solanaceae	Tomato plant	tomati	Herb	Cosmopolitan	FHA 3889
235.	*Solanum torvum* Swartz.	Solanaceae	Turkey berry	Igba-yanrin elegun	Shrub	Native	FHA 4125
236.	*Spathodea campanulata* P.Beauv.	Bignoniaceae	African tulip tree	Orudu	Tree	Native	FHA 4143
237.	*Spigelia anthelmia* L.	Loganiaceae	Worm bush	Aparan	Herb	Exotic	FHA 4116
238.	*Spondias mombin* L.	Anacardiaceae	Hog plum	Iyeye	Tree	Exotic	FHA 4122
239.	*Stachytarpheta cayennensis* (Rich.) Vahl	Verbenaceae	Coral porterweed	Obibo	Shrub	Pantropical	FHA 4478
240.	*Sterculia tragacantha* [Lindley]	Malvaceae	Tropical Chestnuts	Alawefon	Tree	Native	FHA 4516
241.	*Synedrella nodiflora* (L.) Gaert.	Asteraceae	Cinderella weed	Tanaposo	Herb	Exotic	FHA 4376
242.	*Tabebuia rosea* (Bertol.) DC.	Bignoniaceae	Trumpet Tree	Tabebuia	Tree	Native	FHA 4265
243.	*Tacca leontopetaloides* (L.) Kuntze	Dioscoreaceae	Polynesian arrowroot	Aduro-susu	Herb	Native	FHA 4480
244.	*Talinum triangulare* (Jacq.) Willd	Portulacaceae	Water Leaf	Gbure	Herb	Exotic	FHA 4504
245.	*Tamarindus indica* L.	Fabaceae	Tamarinds	Awin	Tree	Native	FHA 4522
246.	*Tapinanthus buntingii* (Sprague) Danser	Loranthaceae	Mistletoes	Afomo	Epiphyte	Native	FHA 4403
247.	*Tecoma stans* (L.) Juss, ex Kunth	Bignoniaceae	Yellow bells	Tekoma	Shrub	Exotic	FHA 4880
248.	*Tectona grandis* L.f.	Lamiaceae	Teak	Igi-gedu	Tree	Exotic	FHA 4385
249.	*Terminalia mantaly* H. Perrier	Combretaceae	Umbrella Tree	Igi-igbafe	Tree	Exotic	FHA 4373
250.	*Tetracarpidium conophorum* (Müll.Arg.) Hutch. & Dalziel	Euphorbiaceae	Nigerian walnut	Awusa, Asala	Liana	Native	FHA 4378
251.	*Tetrapleura tetraptera* (Schum. & Thonn.) Taub.	Fabaceae	Aridan	Aidan	Tree	Native	FHA 4345
252.	*Thaumatococcus daniellii* (Benn.) Benth. ex B.D.Jack.	Marantaceae	Miracle Berry	Ewe moi-moi	Herb	Native	FHA 4370
253.	*Theobroma cacao* L.	Malvaceae	Cocoa plant	Igi-koko	Tree	Exotic	FHA 4441
254.	*Thuja occidentalis* L.	Cupressaceae	White Cedar		Shrub	Exotic	FHA 4410
255.	*Thunbergia erecta* (Benth.) T.Anderson	Acanthaceae	King's Mantle		Shrub	Native	FHA 4518
256.	*Tithonia diversifolia* (Hemls) A. Gray	Asteraceae	Mexican Sunflower	Jogbo, Agbale	Shrub	Exotic	FHA 4435
257.	*Tradescantia spathacea* Sw.	Commelinaceae	Moses-in the-Cradle		Herb	Exotic	FHA 4404
258.	*Triclisia subcordata* Oliv.	Menispermaceae	Triclisia	Alugbonran	Herb	Native	FHA 4489
259.	*Tridax procumbens* L.	Asteraceae	Coat-buttons, Tridax Daisy	Muwagun	Herb	Exotic	FHA 4481

260.	*Turnera subulata* Sm.	Passifloraceae	White Alder, White Buttercup		Subshrub	Exotic	FHA 4525
261.	*Turnera ulmifolia* L.	Passifloraceae	Yellow Alder, Yellow Buttercup		Subshrub	Exotic	FHA 4526
262.	*Uraria picta* (Jacq.) Desv. ex DC.	Fabaceae	Prishniparni	Alupayida	Herb	Cosmopolitan	FHA 4411
263.	*Urena lobata* L.	Malvaceae	Caesar weed	Akeriiri	Shrub	Cosmopolitan	FHA 4485
264.	*Usteria guineensis* Willd.	Loganiaceae	Usteria	Esinsin-ile	Liana	Native	FHA 4436
265.	*Vernonia amygdalina* Delile	Asteraceae	Bitter leaf	Ewuro	Shrub	Native	FHA 3769
266.	*Vernonia cinera* (L.) Less	Asteraceae	Ash Fleabane	Bojure	Herb	Native	FHA 4527
267.	*Vitellaria paradoxa Gaertn* C. F.	Sapotaceae	Shea Tree	Ori	Tree	Native	FHA 4438
268.	*Wodyetia bifurcata* A.K.Irvine	Arecaceae	Foxtail Palm		Tree	Exotic	FHA 4530
269.	*Zea mays* L.	Poaceae	Maize	Agbado, Oka	Herb	Exotic	FHA 4407

Table 2: Number of genera and species distributed across the families in the study area

S/N	FAMILY	NO. OF GENERA	NO. OF SPECIES	% COMPOSITION (SPECIES)
1.	Acanthaceae	2	2	0.7
2.	Amaranthaceae	5	10	3.7
3.	Anacardiaceae	5	5	1.9
4.	Annonaceae	4	5	1.9
5.	Apocynaceae	10	11	4.1
6.	Araceae	3	3	1.1
7.	Araliaceae	1	1	0.4
8.	Araucariaceae	1	1	0.4
9.	Arecaceae	6	7	2.6
10.	Aristolochiaceae	1	1	0.4
11.	Asparagaceae	2	2	0.7
12.	Asteraceae	15	16	5.9
13.	Basellaceae	1	1	0.4
14.	Begoniaceae	1	1	0.4
15.	Bignoniaceae	4	4	1.5
16.	Boraginaceae	2	2	0.7
17.	Brassicaceae	1	1	0.4
18.	Bromeliaceae	1	1	0.4
19.	Cactaceae	2	2	0.7
20.	Caricaceae	1	1	0.4
21.	Casuarinaceae	1	1	0.4
22.	Cleomaceae	1	1	0.4
23.	Colchicaceae	1	1	0.4
24.	Combretaceae	4	5	1.9
25.	Commelinaceae	3	5	1.9
26.	Convolvulaceae	1	3	1.1
27.	Costaceae	1	1	0.4
28.	Crassulaceae	2	2	0.7
29.	Cucurbitaceae	4	5	1.9
30.	Cupressaceae	1	1	0.4
31.	Cycadaceae	1	1	0.4
32.	Cyperaceae	2	2	0.7
33.	Dioscoreaceae	2	4	1.5
34.	Euphorbiaceae	13	21	7.8
35.	Fabaceae	27	34	12.6
36.	Gentianaceae	1	2	0.7
37.	Hypoxidaceae	1	1	0.4
38.	Icacinaceae	1	1	0.4
39.	Lamiaceae	4	5	1.9
40.	Lauraceae	1	1	0.4
41.	Loganiaceae	2	2	0.7
42.	Loranthaceae	1	1	0.4
43.	Malvaceae	14	19	7.1
44.	Marantaceae	1	1	0.4
45.	Meliaceae	3	3	1.1
46.	Menispermaceae	2	2	0.7
47.	Moraceae	2	7	2.6
48.	Moringaceae	1	1	0.4
49.	Musaceae	1	2	0.7
50.	Myrtaceae	1	1	0.4
51.	Nephrolepidaceae	1	2	0.7
52.	Nyctaginaceae	2	2	0.7

53.	Nymphaceae	1	1	0.4
54.	Pandaceae	1	1	0.4
55.	Papaveraceae	1	1	0.4
56.	Passifloraceae	1	2	0.7
57.	Petiveriaceae	1	1	0.4
58.	Phyllanthaceae	3	3	1.1
59.	Piperaceae	1	1	0.4
60.	Poaceae	11	12	4.4
61.	Polypodiaceae	1	2	0.7
62.	Pontederiaceae	1	1	0.4
63.	Portulacaceae	1	1	0.4
64.	Pteridaceae	1	1	0.4
65.	Rubiaceae	4	5	1.9
66.	Rutaceae	1	2	0.7
67.	Sapindaceae	5	5	1.9
68.	Sapotaceae	2	3	1.1
69.	Solanaceae	1	2	0.7
70.	Urticaceae	3	3	1.1
71.	Verbenaceae	3	4	1.5
72.	Zingiberaceae	1	1	0.4
	Total	215 genera	269 species	100%

Table 3: Summary of floristic diversity of the FUNAAB Campus

	PTERIDOPHYTES		GYMNOSPERMAE		ANGIOSPERMAE		
	Number	**%**	**Number**	**%**	**Number**	**%**	**Total**
Families	3	4.17	3	4.17	66	91.66	72
Genera	3	1.40	3	1.40	209	97.20	215
Species	5	1.86	3	1.11	261	97.03	269

This puts the biodiversity of the area at a risk of rapid disappearance; the rate of degradation of the tree species within the study area was alarming and if necessary, precautions are not taken, this may lead to extinction of many economic tree species and some plants with high medicinal value. During this investigation, we found that families Fabaceae, Euphorbiaceae, Malvaceae, Asteraceae and Poaceae were dominating, which is consistent with prior studies (Torres and Galetto, 2011; Shotuyo *et al.*, 2017; Soukayna *et al.*, 2024). This is not causing surprise as the species from these families are seed-bearing herbaceous and woody plants, exceptional colonisers, wind-pollinated, flood tolerant and adapt to a wide range of environmental conditions (Soukayna *et al.*, 2024). We therefore attribute the dominance of Fabaceae, Euphorbiaceae, Malvaceae, Asteraceae and Poaceae species in FUNAAB campus to some intrinsic drivers such as the high fecundity, adaptation to climate change, dispersal and the stress tolerance ability (Rajendra *et al.*, 2011).

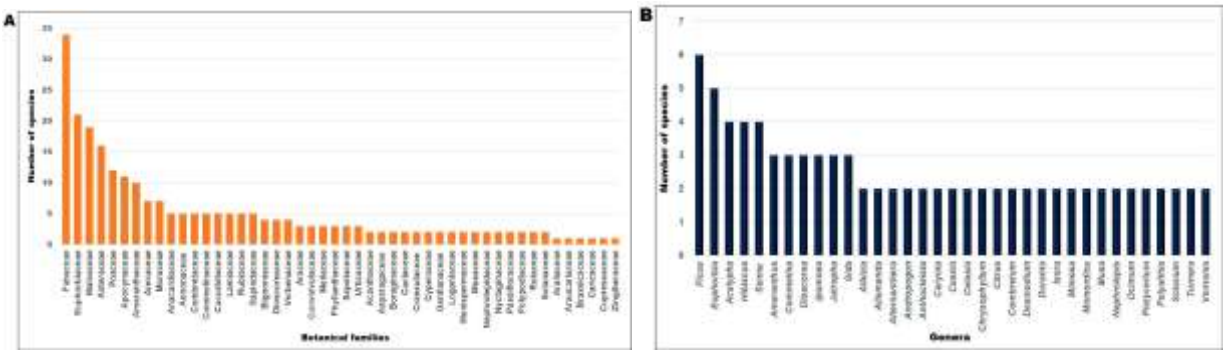

Figure 6. A: Specific richness of botanical families encountered in FUNAAB Campus; **B:** The highest number of species recorded in study area for each genus.

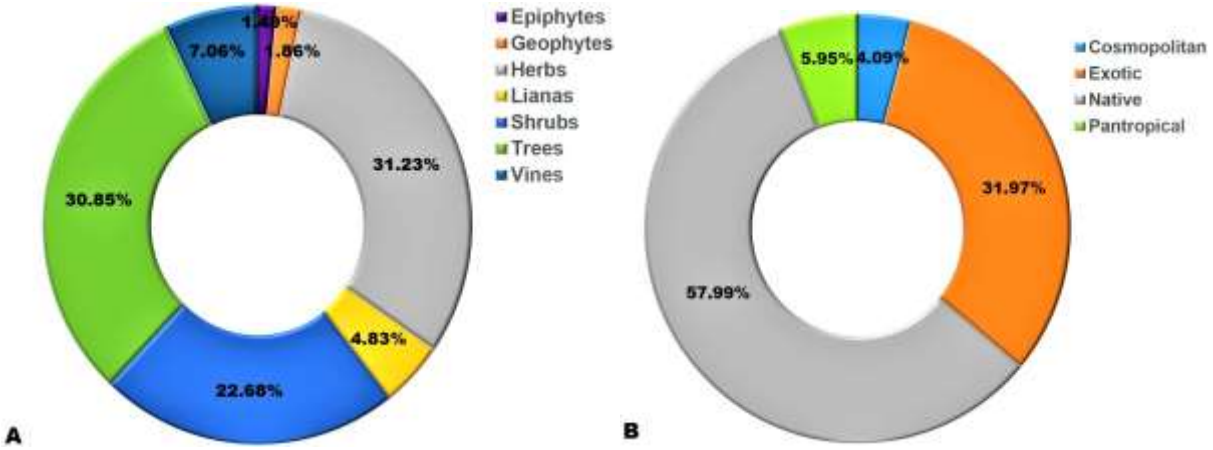

Figure 7. A: Percentage distribution of plant species according to their habit; **B:** Phytogeographical distribution of botanicals recorded in the study area.

Of the 269 plant species distributed in 215 genera and 72 families, 97.03% (261 species) were angiosperms, while 1.11% (3 species) were gymnosperms and 1.86% were (5 species) Pteridophytes, revealing a degree of plant diversity that reflects the diverse opportunities created by anthropogenic or natural influences for plant growth. However, the total number of species recorded in this study was higher than in previous ecological surveys of selected university campuses in Nigeria (Soladoye *et al*., 2005, 138 species; Soladoye *et al*., 2015, 110 species; Kolawole *et al*., 2021, 76 species; Chukwuma *et al*., 2023, 150 species). In line with previous research (Shotuyo *et al*., 2017), we observed that herbs were more prevalent than other plant habits (trees, shrubs, vines, lianas, geophytes and epiphytes); possibly because of the frequent disturbance of the study area. Based on phytogeographical domains, the phytogeographical distribution of 269 species recorded in the FUNAAB campus offers valuable information on the origin of the taxa. Native vascular plants outnumbered exotic species, supporting the previous studies of Kowarik (2005) and Karimi (2009) that native species are more likely to establish in disturbed areas than cultivated and exotic plants. The opportunity for regrowth might be due to the residual propagule of the pre-existing species before the establishment of the FUNAAB campus.

The use of Nigerian vascular plants as economical and medicinal plants has been reported (Kola and Benjamin, 2002; Mann *et al*., 2009; Oluremi *et al*., 2012). Nearly all the species recognised in this study have economic values, ranging from food (*Abelmoschus esculentus, Amaranthus viridis, Anacardium occidentale, Ananas comosus, Basella alba, Carica papaya, Celosia argentea, Citrus reticulata, Colocasia esculenta, Corchorus olitorius, Dioscorea rotundata, Elaeis guineensis, Ipomoea batatas, Manihot esculenta, Persea americana* and *Zea mays*) to medicine (*Abrus precatorius, Ageratum conyzoides, Andrographis paniculata, Argemone mexicana, Bidens pilosa, Bryophyllum pinnatum, Chromolaena odorata*, *Commelina benghalensis, Crotalaria retusa, Croton zambesicus, Cymbopogon citratus*, *Euphorbia hirta, Momordica charantia, Moringa oleifera, Phyllanthus amarus*, *Rauvolfia vomitoria, Tacca leontopetaloides*, *Uraria picta, Usteria guineensis*, *Vernonia amygdalina* and *Vitellaria paradoxa*), building and construction (*Anogeissus leiocarpus, Bambusa vulgaris*, *Ceiba pentandra, Cordia millenii, Entandrophragma utile, Enterolobium cyclocarpum, Gmelina arborea, Milicia excelsa, Spathodea, campanulata* and *Tectona grandis*), ornamental (*Acalypha hispida, Araucaria heterophylla*, *Bauhinia monandra*, *Bougainvillea glabra, Cassia fistula*, *Casuarina equisetifolia, Cycas revoluta*, *Duranta erecta*, *Hellenia speciosa*, *Hura crepitans, Ixora coccinea*, *Allamanda cathartica*, *Polyalthia longifolia*, *Polyscias balfouriana*, *Quisqualis indica*, *Turnera subulata*, *Hibiscus rosa-sinensis*, *Terminalia mantaly*, *Thuja occidentalis* and *Tradescantia spathacea*) and forage (*Calopogonium mucunoides, Panicum maximum, Pennisetum purpureum, Spondias mombin* and *Tridax procumbens*). If these plants are to remain within the locality, it is imperative to consider a sustainable approach to their collection. Previous studies (Tranquilli *et al*., 2014; Soladoye *et al*., 2015; Jørgensen, 2015; Danjuma and Abubakar, 2017; Shotuyo *et al*., 2017; Mudasiru, 2023) suggested that strategic conservation plans can avert species destruction and extinction; we hereby advocate for the conservation of the threatened flora and their associated habitats To ensure that all potential plants for our future use are available, it is important to maintain flora diversity, particularly vascular plant materials from recognised and unidentified taxa. Therefore, this FUNAAB flora checklist anticipated regular biodiversity studies, monitoring and preservation assessments of the vegetation on FUNAAB campus to continuously determine the conservation status of these species and serve as a benchmark for developing conservation plans that are appropriate for the study area's environmental sustainability.

CONCLUSION

The findings from this investigation offer insights into the flora diversity of the FUNAAB campus and a guideline for the effective conservation of vascular plant species and their habitats. The great FUNAAB campus is floristically rich and gifted with immense vascular plant species that serve as a source of food, medicine, forage, ornamental plants and raw materials for businesses, industry, and other ecological services by mankind. However, land-clearing for the construction of buildings, modern agriculture, lack of knowledge of plant collection technique, lack of awareness and exotic plantation are great threats to FUNAAB flora. To protect the FUNAAB flora, adequate attention must be given to safeguard the biodiversity. Autecological investigations, afforestation, seed collection and plant harvest avoidance are regarded as the primary conservation plans to be implemented by management and appropriate authorities. The unsustainable utilization of the flora should be discouraged.

ACKNOWLEDGEMENTS

We are grateful to Professor Iyabo A. Kehinde who facilitated the appointment of Mudasiru, O.M. at the Federal University of Agriculture, Abeokuta as Plant Taxonomist and Curator of FUNAAB Herbarium Abeokuta (FHA) in the Department of Pure and Applied Botany under which this study was carried out. The authors thank Dr. A. A. Abdulwakeel at the Department of Botany and Plant Biotechnology, University of Johannesburg, South Africa, who read and made some useful comments on the first draft of this article. We also express gratitude to the anonymous reviewers for their insightful comments and recommendations.

REFERENCES

Aigbokhan, E. I. (2014). Annotated Checklist of Vascular Plants of Southern Nigeria. A Quick Reference Guide to the Vascular Plants of Southern Nigeria: a systematic approach. Uniben Press, Benin City. p. 346.

APG IV (Angiosperm Phylogeny Group IV). (2016). An update of the Angiosperm Phylogeny Group classification for the orders and families of flowering plants: APG IV. *Botanical Journal of the Linnean Society*, **181**: 1–20.

Asuk, S. A., Offiong, E. E., Ifebueme, N. M. and Akpaso, E. O. (2018). Species composition and diversity of mangrove swamp forest in southern Nigeria. *International Journal of Avian and Wildlife Biology*, **3**(2): 159–164.

Ayodele, A. E. and Yang, Y. (2012). Diversity and distribution of vascular plants in Nigeria. Oingdao Publishing House, China. Pp. 353.

Borokini, T. I. (2013). A Systematic Compilation of IUCN Red-listed Threatened Plant Species in Nigeria. *International Journal of Environmental Sciences*, **3**: 104-133.

Burkill, H. M. (2000). *The Useful Plants of West Tropical Africa*. Royal Botanic Gardens, Kew, United Kingdom, 2nd Ed., UK, Pp. 686.

Chukwuma, D. M., Chukwuma, E. C., Ayodele, A. E., Oluwajobi, A. O., Ajewole, T. O., Adekoya, M. A., Agbolade, J. O., David, O. A., Ajiboye, A. A., Popoola, K. M., Komolafe, R. J., Ajiboye, M. D., Oluwole, B. R., Iwuala, E. N., Akomtey, P. K., Adeleke, K. D., Adebisi, O. S. and Durojaye, E. O. (2023). Angiosperm flora of Federal University Oye-Ekiti, Oye Campus – a preliminary checklist. *Nigerian Journal of Botany*, **36**(1): 69-84. https://dx.doi.org/10.4314/njbot.v36i1.6

Chukwuma, E. C., Chukwuma, D. M. and Adio, A. F. (2020). Flora diversity of Ijero Local Government Area of Ekiti State, South-Western Nigeria. *Tropical Plant Research*, **7**(1): 55–64.

Danjuma, M. N and Abubakar, S. M. (2017). Conservation Status of Vegetation in the Dryland of Northwestern Nigeria. *International Journal of Agriculture, Forestry and Fisheries*, **5**(2): 18-24. http://www.openscienceonline.com/journal/ijaff.

Fennane, M. (2021). Livre rouge de la flore vasculaire du Maroc. *Trav. Inst. Sci. (Rabat)*, **12(1)**: 1–750.

Gbile, Z. O. (1986). Ethnobotany, taxonomy and Conservation of Medicinal Plants. In: Sofowora, A. (eds.), the State of Medicinal Plant Research in Nigeria. University of Ibadan, Nigeria. Pp. 28.

Heywood, V. H. (2004). Modern approaches to floristic and their impact on the region of sw Asia. *Turkish Journal of Botany*, **28**(2): 7-16.

Hutchinson, J., Dalziel, J. M. and Hepper, F. N. (1972). Flora of West Tropical Africa, Vol. III, Part 2. Crown Agents for Oversea Governments and Administrations, London. Pp. 574.

IPNI (International Plant Names Index). (2023). International plant names index. The Royal Botanic Gardens, Kew/Harvard University Herbaria & Libraries, Cambridge, USA/Australian National Botanic Gardens, Canberra, Australia. http://www.ipni.org. Accessed on: October 17, 2023.

Jørgensen, D. (2015). Ecological restoration as objective, target, and tool in international biodiversity policy. *Ecology and Society*, **20**(4): 1-5.

Karimi, Z. (2009). An introduction to the flora, life form and Plant Chorology in Damghan Rangelands. *Journal of Agricultural Science and Natural Resources*, **16**(1): 1-16.

Keay, R. W. J. (1989). Trees of Nigeria. Clarendron Press, Oxford. Pp. 476.

Keay, R. W. J., Onochie, C. F. A and Stanfield, D. P. (1964). Nigerian Trees. Vol II. Nigerian National Press Ltd., Apapa, Lagos. Pp. 344.

Kingsley, O. O., Osazee, O. O and Otasowie, M. E. (2017). Floristic Richness of the Great historic Benin Moat, Benin City, Edo State, Nigeria. *The Nigerian Field*, **82:** 96-107.

Kola, A. K. and Benjamin E. A. (2002). Comparative antimicrobial Activities of leaves of *Combretum micranthum* and *Combretum racemosum*. *Global Journal of Medical Science*, **1**(1): 11-15.

Kolawole, O. S., Bello, M. S., Chukwuma, E. C. and Gani, A. M. (2021). A preliminary checklist of Angiosperm flora of Federal University of Kashere Campus, Gombe State. *Nigerian Journal of Botany*, **34**(2): 245-258. https://dx.doi.org/10.4314/njbot.v34i2.

Kolawole, O. S., Yusuf, K., Muazu, M., Bello, M. S. and Chukwuma, E. C. (2021). Effect of cement dust pollution on growth performance and chlorophyll content of *Abelmoschus esculentus* (Linn.) Moench. In: Aliero, A. A., Agboola, D. A. and Vwioko, E. D. (eds.). Plant and the ecosystems, Frieschift in Honour of Professor Alhassan M. G. Federal University of Kashere Press, Pp. 339.

Kowarik, I. (2005). Wild Urban Woodlands: Toward a Conceptual Framework. In: Wild Urban Woodlands, Eds. Ingo Kowarik and Stefan Korner. Berlin: Springer-Verlag, New York, 13: 1-32.

Lewis, W. H. (1986). The Useful Plants of West Tropical Africa. *Economy Botany*, **40**: 1-176..

Mann, A., Amupitan, J. O., Oyewale, A. O., Okogun, J. I. and Ibrahim, K. (2009). Antibacterial activity of terpenoidal fractions from *Anogeissus leiocarpus* and *Terminalia avicennioides* against community acquired infections. *African Journal of Pharmacy and Pharmacology*, **3**(1): 22-25.

Marks, E. G., Aflakpui, K. S., Nkem, J., Poch, R. M., Khouma, M., Kokou, K., Sagoe, R. and Sebastia, M. T. (2009). Conservation of Soil Organic Carbon, Biodiversity and the Provision of other Ecosystem Services along Climatic Gradients in West Africa. *Biogeosciences*, **6**: 1825-1838.

Mudasiru, O. M. (2023). Taxonomic Revision and Phylogenetic Considerations of Combretaceae R.Br. in Nigeria using Morphological and DNA Markers. Ph.D Thesis, University of Ibadan, Ibadan, Nigeria, Pp. 363..

Olorode, O. (1984). Taxonomy of West African Flowering Plants. Longman Publishing Company, London, Pp. 158.

Oluremi, B. B., Bamiro, O. A., Olusola, A. I. and Annegret, O. O. (2012). Effects of compression pressure, preservative and storage with potassium chloride on the microbiological quality of tablets formulated with *Terminalia randii* Gum (Combretaceae). *Pakistani Journal of Pharmaceutical Sci*ences, **25**: 773–776.

POWO. (2021). Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. Accessed on: December 24, 2021.

QGIS Development Team (2023). QGIS Geographic Information System, Open Source Geographic Information System, Open Source Geospatial Foundation Project, Version 3.30.1. http://qgis.osgeo.org.

Rajendra, K. S., Joshi, P. N., Joshua, J., Sunderra, S. F. W., Kalavathy, S. and Ragunathan, P. (2011). Importance and conservation values of disturbed lands of North Gujarat Region (NGR), India. *Plant Sciences Feed*, **8**(1): 121-141.

Shotuyo, A. L. A., Jayeola, O. A. and Ayodele, I. A. (2017). Habitat Use Strategy of Vertebrates in an Emerging Nature Reserve. *Journal of Agricultural Science and Environment*, **17**(2): 50-80.

Soladoye, M. O., Chukwuma, E. C., Fagbenro, J. A. and Adelagun, E. O. (2015). A Checklist of Angiosperm Diversity of Bowen University Campus, Iwo, Osun State, *Nigeria. Journal of Plant Sciences*, **10**(6): 244-252.

Soladoye, M. O., Sonibare, M. A., Nadi, A. O. and Alabi, D. A. (2005). Indigenous angiosperm biodiversity of Olabisi Onabanjo University permanent site. *African Journal of Biotechnology*, **4**: 554-562.

Soukayna, B., Hamid, K., Najib, M., Nadia, B., Lahcen, Z., Ouafae, B. and Jamila, D. (2024). Study of the Floristic Diversity of the Moulay Driss Zerhoun Region in the Prerif Range, Morocco. *Egyptian Journal of Botany*, **64**(1): 27-63.

Taylor, D. J., Green, N. P. O. and Stout, G. W. (2007). Variety of Life. *Biological Sciences*, 6th Ed., Cambridge Press, Pp. 765.

Torres, C. and Galetto, L. (2011). Flowering phenology of co-occurring Asteraceae: A matter of climate, ecological interactions, and plant attributes of evolutionary relationships among species. *Organisms Diversity and Evolution*, **11**: 9–19.

Tranquilli, S., Abedi-Lartey, M., Abernethy, K, Amsini F., Asamoah A. and Balangtaa, C. (2014). Protected areas in tropical Africa: assessing threats and conservation activities. PLoS ONE, **9**(12): e114154.