

Article

Salient Features of Floriversity of Sokoto South Local Government Area, Sokoto State, Nigeria, Flora of West Tropical Africa

Dharmendra Singh

Department of Biological Sciences, Kebbi State University of Science and Technology Aliero, Nigeria-
PMB 1144; Email: singhdharmendra12@yahoo.com

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Abstract: Sokoto south local government area is situated in the Sokoto State Northwestern part of Nigeria. It has a total land area of approximately 41 Sq. km. The geographical position are latitude $13^{\circ}03'00''N$ $5^{\circ}13'E$ and longitude $13^{\circ}.05'00''N$ $5.2170E$. The topography of the area is flat and slightly undulating with compact stony and sandy soil, where xerophytic plants can grow, the savanna type of vegetation has two major seasons from May to October (rainy season), the dry season lasting from November to April. Harmattan period (December to January) is characterized by heavy dust. The mean annual temperature vary considerably but usually at $27^{\circ}C$ in March and April ($40^{\circ}C$) which are hottest months in the year. The Present investigation outcome of the floristic studies made into varied localities of the Sokoto South local government area from June 2016 to May 2017. The collections have been found to be spread over 28 families and 52 species of angiosperms. They are Fabaceae 6 species, Caesalpiniaceae 5 species, Asclepiadaceae, Convolvulaceae, Euphorbiaceae, Poaceae each of them have 3 species, Anacardiaceae, Capparaceae, Combretaceae, Malvaceae, Moraceae, Myrtaceae, Sterculiaceae, each of them have 2 species and Amaranthaceae, Amaryllidaceae, Balanitaceae, Bombacaceae, Cucurbitaceae, Caricaceae, Meliaceae, Mimosaceae, Rhamnaceae, Rubiaceae, Sapotaceae, Verbenaceae, Zygophyllaceae each of them have 1 species. The 3 dominant families of plant species identified in this studied were: Fabaceae 6 species, Caesalpiniaceae 5 species, and Asclepiadaceae, Convolvulaceae, Euphorbiaceae, Poaceae each of them have 3 species. The 4 dominant genera are *Ipomoea* 3 species; *Combretum*, *Ficus* and *Euphorbia* each of them have 2 species. During the investigation very

rare species *Adansonia digitata*, *Balanites aegyptica* and *Combretum paiculatam* were found in the studied area.

Keywords: Floristic diversity, Sokoto, West Africa

1. Introduction

1.1. Geographical Position

Sokoto south local government area is located at approximately latitudes 13⁰03⁰N 5⁰13E and longitudes 13⁰ 05⁰N 17 E. It is situated in the Sokoto State, North Western part of Nigeria and is bordered by Gudu local government area North and West, Silome local government area South and West respectively, while on the North and East surrounded by Kware and Binji local government areas respectively. The Sokoto south local government area has a total land area of approximately 41 Sq. km. (Sokoto State Statistical Year book 1998).

1.2. Topography

Sokoto South local government area is dominated by massive flood plains of the in-land river valley system. Thus, it typically has a flat but undulating elevation of about 150 m in the flood plains. This increases towards the Niger River basin to about 600 m on the eastern side. The alluvial sediments in the flood plains range from gravel to clay. It is this sediment which gets saturated during the rains, to store water in the sands for dry season use. The Geology of Sokoto State is characterized by thick sedimentary deposited of the Sokoto-Rima basin. Other areas in Sokoto State are under laid by Precambrian Basement Complex rocks. (Sokoto State Statistical Year book 1998)

1.3. Climatic Conditions

The climate of the study area is characterized by a long dry season (October to April), with a short rainy season (May to October). Rainfall starts in late May and ends in late September or early October with annual rainfall ranging from 400 to 700mm. The minimum and maximum Temperatures are 19⁰C and 34⁰C respectively with mean annual temperature of 27⁰C and a relative humidity of 52% to 55%. The study area experiences harmattan wind which is a dry cold dusty wind blowing from the months of November to February. However during the harmattan season the temperature can go down to about 21⁰C. The temperature rises to 40⁰C during the months of April and June (Sokoto State Statistical Year book 1998).

1.4. Justification of the Research

A perusal of relevant literature reveals that areas undertaken by earlier floribologist and agriculturist has been either too large (Hutchinson and Dalziel 1963, Lowe 1989, Arbonnier (2004), or too small (Abdullahi 2001). Former due to a very large canvas and latter due to incomplete area coverage do not serve as an exclusive and specific angiospermic flora for Sokoto State. Present Floriversity study carries an objective to bring out a comprehensive flora for Sokoto State, for the benefit of person engaged in higher studies and research in floristic, agriculturist and allied branches.

2. Materials and Methods

Taking into consideration the detailed political map of the area and physiographical information about it's collection of localities were chalked out so as to cover maximum geographical and topographical range. During the collection drives, observations on habit and habitat, flower colour and fragrance, besides dominance and sociability of the collected plants, were entered in field books. At least five tagged specimens were pressed on spot for preparing herbarium sheets and a bundle of a few plant specimens, tagged with same field number, was also collected in polythene bag for study at laboratory. Macroscopic and microscopic studies on collected specimens, determination of their identity and preparation of the herbarium specimens were performed after Jain and Rao (1978) and Okoli (2002). Duly processed herbarium specimens of plants have been housed in the herbarium of Department of Biological Sciences, Kebbi State University of Science and Technology Aliero, Kebbi State, Nigeria, for record and references.

3. Results and Discussion

The paper enumerates the taxa collected during floristic survey into varied localities of Sokoto South local government area from June 2016 to May 2017. After a thorough study on over 180 field numbers, the identified taxa have been found to be spread over 28 families and 52 species of angiospermic plants. In the present enumeration the Taxa have been arranged in alphabetical order and their families, field number, locality same pattern (Table 1).

Table 1: Systematic enumeration

S/N	Taxa	Family	Field No	Locality
1.	<i>Acacia nilotica</i> (L.)Wild. Ex Del	Mimosaceae	1827	Mana
2.	<i>Adansonia digitata</i> L.	Bombacaceae	1832	Mana
3.	<i>Aeschynomene indica</i> L.	Fabaceae	1829	Gagi
4.	<i>Alysicarpus ovalifloius</i> L.	Fabaceae	1847	Gagi

5.	<i>Amaranthus blitum</i> L.	Amaranthaceae	1810	Bubare
6.	<i>Anacardium occidentale</i> L.	Anacardiaceae	1840	Bubare
7.	<i>Azadirachata indica</i> A. Juss.	Meliaceae	1804	Gagi
8.	<i>Balanites aegyptiaca</i> (L.) Del.	Balanitaceae	1833	Gagi
9.	<i>Boerhavia erecta</i> L.	Nyctaginaceae	1828	Tamaje
10.	<i>Calotropis procera</i> (Ait) Ait. f.	Asclepiadaceae	1806	Gagi
11.	<i>Cassia tora</i> L.	Caesalpiniaceae	1820	Gagi
12.	<i>Cassia siebernia</i> DC.	Caesalpiniaceae	1826	Tamaje
13.	<i>Carica papaya</i> L.	Caricaceae	1841	Mana
14.	<i>Combretum micranthum</i> G.Don.	Combretaceae	1817	Gagi
15.	<i>Combretum paniculatum</i> Vent.	Combretaceae	1836	Tamaje
16.	<i>Cenchrus biflorus</i> Roxb.	Poaceae	1825	Gagi
17.	<i>Ceratostachys sesamoides</i> Endl	Pedaliaceae	1854	Gagi
18.	<i>Crotalaria retusa</i> L.	Fabaceae	1819	Bubare
19.	<i>Crotalaria religiosa</i> F.	Capparaceae	1822	Bubare
20.	<i>Citrullus lanatus</i> Thumb.	Cucurbitaceae	1839	Tamaje
21.	<i>Crinum asiaticum</i> Roxb.	Amaryllidaceae	1848	Gagi
22.	<i>Dichrostachys cinerea</i> L.	Fabaceae	1849	Tamaje
23.	<i>Digitaria seminuda</i> Stapf.	Poaceae	1824	Mana
24.	<i>Euphorbia balsamifera</i> Ait.	Euphorbiaceae	1850	Mana
25.	<i>Euphorbia hirta</i> L.	Euphorbiaceae	1805	Tamaje
26.	<i>Eucalyptus camaldulensis</i> Dehnh.	Myrtaceae	1837	Gagi
27.	<i>Ficus glumosa</i> Del.	Moraceae	1838	Mana
28.	<i>Ficus ingens</i> (Miq.) Miq.	Moraceae	1851	Tamaje
29.	<i>Gynandropsis gynandra</i> L.	Capparaceae	1807	Mana
30.	<i>Hibiscus sabdariffa</i> L.	Malvaceae	1812	Mana
31.	<i>Indigofera hirsuta</i> L.	Fabaceae	1831	Bubare
32.	<i>Ipomoea involucreta</i> P. Beauv.	Convolvulaceae	1815	Bubare
33.	<i>Ipomoea muritiana</i> Jacq.	Convolvulaceae	1835	Tamaje
34.	<i>Ipomoea vagans</i> Bak.	Convolvulaceae	1852	Tamaje
35.	<i>Leptadenia hastata</i> (Pers.) Decne.	Asclepiadaceae	1813	Mana
36.	<i>Mangifera indica</i> L.	Anacardiaceae	1814	Tamaje
37.	<i>Melochia corchorifolia</i> L.	Sterculiaceae	1823	Mana
38.	<i>Mitracarpus villosus</i> (Sw.) DC	Rubiaceae	1809	Tamaje
39.	<i>Pergularia tomentosa</i> (Forsk.) Chiov.	Asclepiadaceae	1830	Tamaje
40.	<i>Phaseolus acutifolius</i> L.	Fabaceae	1808	Gagi
41.	<i>Phyllanthus amarus</i> Sch. et Thon.	Euphorbiaceae	1843	Gagi

42.	<i>Piliostigma thonningii</i> (Schumach) M.R.	Caesalpiniaceae	1844	Mana
43.	<i>Psidium guajava</i> L.	Myrtaceae	1842	Tamaje
44.	<i>Senna alata</i> (L.) Roxb.	Caesalpiniaceae	1801	Gagi
45.	<i>Sida cordifolia</i> L.	Malvaceae	1818	Tamaje
46.	<i>Tamarindus indica</i> L.	Caesalpiniaceae	1845	Tamaje
47.	<i>Tribulus terrestris</i> L.	Zygophyllaceae	1853	Gagi
48.	<i>Thelepogon elegans</i> Roth ex Roem. & Schult.	Poaceae	1802	Tamaje
49.	<i>Vitellaria paradoxa</i> Gaertn f.	Sapotaceae	1846	Gagi
50.	<i>Vitex doniana</i> Sweet.	Verbenaceae	1803	Gagi
51.	<i>Waltheria indica</i> L.	Sterculiaceae	1821	Tamaje
52.	<i>Ziziphus mauritania</i> Lam.	Rhamnaceae	1816	Gagi

4. Conclusion

The 3 dominant families of plant species identified in this studied were: Fabaceae 6 species, Caesalpiniaceae 5 species, and Asclepiadaceae, Convolvulaceae, Euphorbiaceae, Poaceae each of them have 3 species. The 4 dominant genera are *Ipomoea* 3 species; *Combretum*, *Ficus* and *Euphorbia* each of them have 2 species. During the investigation very rare species *Adansonia digitata*, *Balanites aegyptica* and *Combretum paiculatam* were found in the studied area.

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