

Article

## Salient Features of Diversity of Weeds Found in Maiyama Local Government Area of Kebbi State, Nigeria

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**Abstract:** The present study is outcome of salient features of diversity of weeds studies in varied localities of the Maiyama Local Government area (LGA) of Kebbi State, Nigeria. The studies of weeds were regularized into varied localities of the Maiyama local government area from August 2018 to July 2019. The sample of weeds were collected randomly in Fadama land dry land. The collection has been found to be over spread 25 weed species and 13 families. The families of the diversity of plants identify in this study area were: Asteraceae, Capparaceae, Fabaceae, Pedaliaceae, Rubiaceae, Scrophulariaceae, Tiliaceae, each have one species. Amaranthaceae, Caesalpiniaceae, Cyperaceae, Lamiaceae, Malvaceae, each have two species. Euphorbiaceae has 3 species and Poaceae has 4 species. The majority of the plant species were collected from the farm, while some were collected along the road. All weeds are reported according to their field numbers along with their botanical names, local names and localities.

**Keywords:** Weeds, Salient features, Maiyama LGA, Kebbi State, Nigeria

### 1. Introduction

Weeds are the general term for any plant growing where it is unwanted. Ever since humans first attempted the cultivation of plants, they have had to fight the invasion by weeds into areas chosen for

crops (Lambers *et al*, 2008). Some unwanted plants later were found to have virtues not originally suspected and so were removed from the category of weeds and taken under cultivation. Other cultivated plants, when transplanted to new climates, escaped cultivation and became weeds or invasive species. The category of weeds thus is ever changing, and the term is a relative one (Lambers *et al*, 2008). Weeds interfere with a variety of human activities, and many ways have been developed to suppress or eliminate them. These methods vary with the nature of the weed itself, the means at hand for disposal, and the relation of the method to the environment (John *et al*, 1962). Usually for financial and ecological reasons, methods used on a golf course or a public park cannot be applied on range land or in the forest (John *et al*, 1962). Herbicide chemicals sprayed on a roadside to eliminate unsightly weeds that constitute a fire or traffic hazard are not proper for use on cropland. Mulching, which is used to suppress weeds in a home garden, is not feasible on large farms. Weed control, in any event, has become a highly specialized activity. Universities and agricultural colleges teach courses in weed control, and industry provides the necessary technology. In agriculture, weed control is essential for maintaining the current levels of production (Akobundu and Agyakwa 1987).

### *1.1. Geographical Position*

Maiyama local government area is located at approximately longitudes 12<sup>02</sup>' 0" North and latitudes 4<sup>0</sup> 16' 0" East. It is situated in Kebbi State, Nigeria. The research was conducted in Maiyama local government area (LGA) of Kebbi State. The LGA has a total area of 1,028km. (Kebbi State Statistical year book 2007).

### *1.2. Topography*

Topography of the area is flat and slightly undulating with compact stony brown sandy soil. It has a savaninity of vegetation with two major seasons, the dry season from November to April and rainy season from May to October. The harmattan period is generally characterized by heavy cold and dust. The mean annually temperature is 42<sup>0</sup>c about 500mm to 1,300mm of precipitation falls annually (Singh 2015).

### *1.3. Climatic Condition*

Maiyama LGA enjoys a tropical type of climate, generally characterized by wet and dry seasons. The rainfall begins in April with the heaviest rainfall recorded in the months of July and August. The cold harmattan period characterized by dust laden wind prevails in November to January while the months of February and March are extremely hot. The mean annual temperature varies considerably but usually stand at 42<sup>0</sup>C. The mean annual rainfall is 500 mm (Kebbi State Statistical Year book, 2007).

#### *1.4. Justification of the Study*

A perusal of relevant literature reveals that areas undertaken by earlier florists and agriculturists has been either too large (Hutchinson and Dalziel 1963, Egunjobi 1969, Ivens *et al*, 1978, Terry 1983, Olorode 1984, Akobundu and Agyakwa 1987, Gill 1988, Lowe 1989, Singh *et al*, 2010 and Singh 2015) or too small (Abdulla 2001). Former due to a very large canvas and latter due to incomplete coverage area do not serve as an exclusive and specific weed flora for Maiyama LGA of Kebbi State. Present diversity of weeds study carries an objective to bring out a comprehensive, weed flora for Maiyama LGA of Kebbi State, for the benefit of person engaged in higher studies and research in weed floristic, agriculturist and allied branches.

## **2. Materials and Methods**

Collection trips have been organized in a planned manner with the intention that every collection point was covered in all seasons of a year areas in Maiyama local government, Kebbi State. The frequency of trip was twice a week in a year. In case of larger plants care was taken that the collected specimens include flowers, leaves and stem (of young and old stages). At least four specimens were pressed at spot tagging, for preparing herbarium sheets. A bundle of few plants duly tagged was taken in a polythene bag for study in laboratory (Singh, 2015).

The sample of weeds species were collected randomly on the Fadama land dry land. All samples were collected and put inside the polythene bag contain separate species and take for identification. The plants were pressed in between the sheets of blotting paper or old newspaper. One plant be arranged on one sheet in a manner that there should be no over-lapping of parts. The large specimens may be folded in 'V', 'N' shapes. The blotting papers with plant specimen should be placed in field press for about 24 to 48 hours. The press is then opened; blotting paper should be changed and rearranged the plants properly. After it press should be again closed and after 2 or 3 days change the blotting and dry plants in sunlight or artificial heat (Singh, 2015). Poisoning of the specimen were done immediately after collection. Poisoning kills the plants and there by prevents the formation of abscission layer and decay. For poisoning, mercuric chloride, formalin etc are used (Singh, 2015).

There after specimens were dried by sheet change and placing under sun. In cloudy humid days the specimens and blotters interleaved with aluminum corrugates were placed on plates and subjected to stove heating. Dried specimens were poisoned with saturated solution of mercuric chloride and dry specimens were pasted on herbarium sheets at proper place and label slips were filled and pasted at right bottom corner of the sheets. Sample not readily identified were taken to the laboratory for proper identification. On the basis of identification in lab and field notes detained description of each taxon was written. For determining family, genus and species on the individual taxon, relevant taxonomic

literatures were depended upon (Jain and Rao, 1978 and Okoli, 2002). Duly processed herbarium specimens of weeds have been housed in the herbarium of the Department of Plant Science and Biotechnology, Kebbi State University of Science and Technology Aliero, Nigeria, for record and references purposes.

### 3. Results and Discussion

The studies of weeds were regularized into varied localities of the Maiyama local government area, Kebbi State from August 2018 to July 2019. Survey a total 25 Species and 13 families. Asteraceae, Capparaceae, Fabaceae, Pedaliaceae, Rubiaceae, Scrophulariaceae, Tiliaceae, each have one species. Amaranthaceae, Caesalpiniaceae, Cyperaceae, Lamiaceae, Malvaceae, each have two species. Euphorbiaceae has 3 species and Poaceae has 4 species. The majority of the plant species were collected from the farm, while some were collected along the road. All plants are reported according to their field numbers along with their botanical names, local names and localities (Table1).

**Table 1:** Botanical names, local names, family names, locality and their field numbers

S.N	Botanical Name	Local Name	Family	Locality	Field No.
1	<i>Mitracapus villosus</i> (S.W) D.C	Harwatsi	Rubiaceae	Mungadi	529
2	<i>Elensine indica</i> L.Gaertns	Tuji	Poaceae	Mungadi	530
3	<i>Euphorbia hirta</i> L.	Nonon kurchiya	Euphorbiaceae	Mungadi	531
4	<i>Corchorus tridens</i> L.	Lalo	Tiliaceae	Mungadi	532
5	<i>Amaranthes viridis</i> L.	Rukubu	Amaranthaceae	Sambawa	533
6	<i>Cassia tora</i> L.	Tafasa	Caesalpiniaceae	Mayalo	534
7	<i>Sesamum alatum</i> Thonning	Yodon karkashi	Pedaliaceae	Mayalo	535
8	<i>Cleome viscosa</i> L.	Yar unguwa	Capparaceae	Giwa tazo	536
9	<i>Phyllanthus amarus</i> S.et T.	Geron tsuntsaye	Euphorbiaceae	Karaye	537
10	<i>Crotalaria macrocalyx</i> Benth	Gujjiyar awaki	Fabaceae	Karaye	538
11	<i>Eragrostic tremula</i> Hochst	Bubburwa	Poaceae	Mungadi	539
12	<i>Acanthospermum hispidum</i> L.	Hakorin yawo	Asteraceae	Mungadi	540
13	<i>Striga heminthica</i> (Del.) Benth	Kuduji	Scrophulariaceae	Maiyama	541

14	<i>Flueggea virdis</i> Saldanha ex willd	Tsa	Euphorbiaceae	Maiyama	542
15	<i>Pennisetumpedicallatum</i> Trin.	Kyasuwa	Poaceae	Saran dosa	543
16	<i>Gomphrena celosiodes</i> Mart	Farin malam	Amaranthaceae	Karaye	544
17	<i>Cyperus</i> ssp. <i>rotundasrotundas</i> L.	Aya aya	Cyperaceae	Giwa tazo	545
18	<i>Urena lobata</i> L.	Garmani	Malvaceae	Giwa tazo	546
19	<i>Kyllinga erecta</i> Schumach	Aya aya	Cyperaceae	Mungadi	547
20	<i>Leucas martinicensis</i> R.Br	Bunsurun hausa	Lamiaceae	Mayalo	548
21	<i>Andropogan gayansu</i> Kunth	Gamba	Poaceae	Mungadi	549
22	<i>Ocimum basilium</i> L.	Doddoya	Lamiaceae	Saran dosa	550
23	<i>Urginea indica</i> L.	Albasar kura	Liliaceae	Mungadi	551
24	<i>Cassia occidentalis</i> L.	Sanga sanga	Caesalpiniaceae	Sambawa	552
25	<i>Sida bosa</i> R.E.Fried.	Miya tsanya	Malvaceae	Maiyama	553

25 species and 13 families were analyzed in the following were Poaceae have 4 species, Euphorbiaceae have 3 species, which shows the highest followed by Amaranthaceae, Caesalpiniaceae, Cyperaceae, Lamiaceae, Malvaceae, each have two species and Asteraceae, Capparaceae, Fabaceae, Pedaliaceae, Rubiaceae, Scrophulariaceae, Tiliaceae, each have one species. Twenty-five plants were documented for record purpose.

#### 4. Conclusion

A total of 25 species belonging to 13 families has been encountered during the study, it can be concluded that Poaceae have 4species and Euphorbiaceae have 3 species that is the highest number, Amaranthaceae, Caesalpiniaceae, Cyperaceae, Lamiaceae, Malvaceae, each have two species and Asteraceae, Capparaceae, Fabaceae, Pedaliaceae, Rubiaceae, Scrophulariaceae, Tiliaceae, each have one species

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