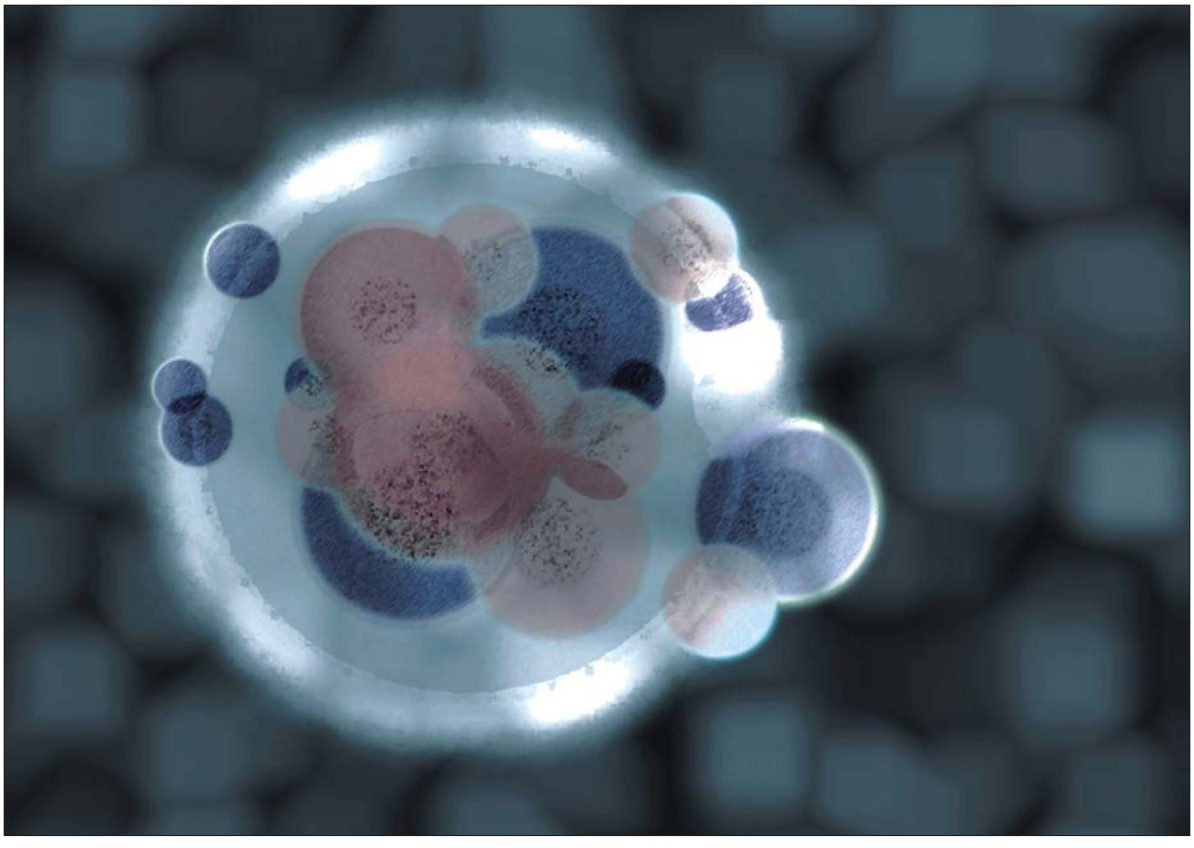

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Vegetation inventory of the Redemption Camp, Ogun State, Nigeria; Evaluation of Medicinal Plant Resources and Strategies for Conservation

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Abstract: Plants are of great importance in the environment. They help in conserving soil fertility, prevention of erosion, recycling of oxygen and water. They also provide shade, seeds, fruits, timber, vegetables and medicines for man and his livestock. The Redemption Camp falls within the moist equatorial/tropical rainforest belt of Nigeria known for its rich reserve of economic and medicinal plants. This forest has been over exploited and the rate at which the vegetation around the Camp is being destroyed is alarming. Going by the UN declaration of 2010 as the year of biodiversity, there arose an urgent need to document the available plant species in the Redemption City, noting their different uses and promoting ample action towards their conservation through awareness programmes, housing in herbarium and cultivation of a medicinal plant farm. An inventory of the vegetation around the Camp was undertaken between March and November 2010. A total of 472 plants species belonging to one hundred and thirteen (113) families majority of which have previously been documented as medicinal plants were recorded. Herbs, trees and shrubs dominated the flora. The records of herbs and grasses could have possibly arisen as pioneer species of formerly forested areas cleared for housing and other development projects. The most diverse families were Poaceae, Euphorbiaceae, Asteraceae, Fabaceae, Leguminosae, Moraceae and Cyperaceae, while the commonest trees were *Ficus capensis*, *F. polita*, *F. exasperata*, *Elaeis guineensis*, *Morinda lucida*, *Albizia lebbeck*, *Anthocleista vogelii*, *Maragaritaria discoides*, *Bridelia micrantha*, *Carica papaya*, *Spondias mombin*, *Blighia sapida*, *Antiaris africana*, *Alstonia boonei*, *Sterculia trigacantha*, *Rauvolfia vomitora*, *Ceiba pentandra*, *Albizia zygia*, *Newbouldia laevis*, *Anthocleista djalonensis* and *Bombax bounopozense*. The numerous climbers characteristic of the tropical rainforest indicated the presence of forests in the recent past. This listing of the medicinal plants will pave way for other researchers as th search for new drugs continues.

Key words: Redemption city, southwestern Nigeria, biodiversity, medicinal plants, herbarium

INTRODUCTION

Since the first earth summit in Rio de Janeiro, there has been a sustained global awareness of the importance of the superfluity of biodiversity and natural resources from tropical forests for several purposes. This stems not only from the derivable forest products but also from the potent ethno-botanical and ethno-medicinal uses of the plants in these forests. The world's tropical rain forests are especially rich in biodiversity but there is rapid depletion of these natural resources in Nigeria and possibly worldwide (Ayodele, 2005). These pressures which arise from degradation, unsustainable arable land use, urbanization and industrialization are taking their toll as well (Obute and Osuji, 2002; Ayodele, 2005). The plant genetic resources of Nigeria, according to Gbile and Adesina (1986), are a veritable source of pharmaceuticals and therapeutics. Traditional medicine practice has existed in Africa and other cultures for centuries since man came into being but until recently, has been neglected or even outlawed in some cases due to undue pressure from practitioners of modern medical practice and the unscientific background of its method of operation. Okujagu (2005) opined that this worldwide renewed interest in traditional medicine derives from the realization that: in the absence of widespread use of modern or orthodox medicine in these poor countries, healthcare has virtually been sustained by these cultural alternatives. Ayodele (2005) had challenged Nigerian taxonomists and conservation biologists to undertake proper identification and conservation of these highly important genetic resources. According to WHO (2001) 80% of the world population or roughly two thirds of the world's population, rely almost exclusively on traditional

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medicines using natural substances mostly derived from plants in the treatment of diseases. In African countries, this rate is much higher (OMS, 1983).

Medicinal plants has been defined as any plant with one or more of its organs containing substances that can be used for therapeutic purpose or which can be used as precursors for the synthesis of antimicrobial drugs (Sofowora, 1982, 1993). The need to study medicinal plants cannot be overemphasized for a number of reasons including, (1) widespread use of plants in folk medicine, (2) rescuing traditional medicinal plants and knowledge about them from imminent loss as well as (3) their role in attaining the health for all target. More so, a clear understanding of the biological data of an organism or species provides an insight on the potentials inherent in it to solve problems such as potentials of plant extracts in controlling different plant diseases (Essien *et al*., 2008; Nahunnaro, 2008; Okigbo, 2005; Okigbo and Ogbonna, 2006; Oyelana *et al*., 2011). Today, many medicinal plants face extinction with about 15000 medicinal plants under threat (Medicinal Plant Specialist Group, 2007) and for most of the endangered species no conservation action has been taken.

All over the world studies of the vegetation of different areas are undertaken to document the flora, especially in these days of remarkable genetic losses due to over exploitation of forests and its products (Oren *et al*., 2007; Uyar *et al*., 2007; Betti and Lejoly, 2009). Apart from this, some of these workers had undertaken their studies to ascertain the different medicinal plants in their regions. A lot of work has been undertaken to ascertain and document the medicinal properties of indigenous plants in Nigeria. Among the pioneer workers were Bhat *et al*. (1990) who undertook an ethnobotanical study in Kwara state Nigeria to document the uses of the different plant resources by the people. From interviewing the elderly and traditional medicine practitioners, they listed the different plants, their botanical names, parts used, method of preparation, ailments used for as well as local names in the three major Nigerian language. Among the plants they studied were *Daniellia oliveri*, *Jatropha curcas*, *Azadirachta indica*, *Blumea gariepina*, *Calotropis procera*, *Citrus aurantifolia*, *Bryophyllum pinnatum*, *Bridelia ferruginea*, *Argemone mexicana*, *Glypheae brevis*, *Vitellaria paradoxa*, *Eleusine indica*, *Ficus thonningii*, *Cassia occidentalis*, *Cassia alata*, *Hyptis suaveolens*, *Carica papaya* among others. Iwu (1998) carried out an intensive inventory of medicinal plant resources of West and Central Africa for the United States Army medicinal research and material command. Sofowora (1993) in his book Medicinal Plants and Traditional Medicine in Africa had listed numerous medicinal plants in Africa, and Nigeria in particular. He enumerated the medicinal plants in common use, some research publication in this area and biologically active ingredients derived from some of these plants.

Nwosu (2002) had undertaken an ethnobotanical survey of southern Nigerian pteridophytes. The survey which involved several field trips between January 1996, to May 1999 revealed an interesting diversity and distribution of ferns and fern allied plants. She recorded 36 pteridophyte species belonging to 22 families which were used by the locals for medicines, food, cosmestics, fodder, aphrodisiacs and for manure. Among the commonest species were *Adiantum*, *Asplenium*, *Arthromeris*, *Aleuriopteris*, *Lycopodium*, *Lygodium*, *Dryopteris*, *Ophioglossum*, *Pteris* and *Selaginella* species.

Ibe and Nwufo. (2005) using questionnaires, personal interviews and review of available records documented that in southeastern Nigeria medicinal plants also serve as vegetables, fruits, trees and ornamentals. Moreover, out of forty-three plants they reported that about fifteen were undergoing domestication. Their study revealed that much has not been done as regards the domestication of medicinal plants in Southeastern Nigeria. Soladoye *et al*. (2005) had studied the angiosperm community in the permanent site of Olabisi Onabanjo University, Ago Iwoye, Ogun State, Nigeria with the aim of conserving them for posterity especially during the development of the new University campus. They listed one hundred and thirty eight species (138) belonging to fifty-five families. There were one hundred and twenty seven dicotyledonous species while monocots were eleven. Leguminosae appeared the dominant family followed successively by Rubiaceae and Euphorbiaceae. Furthermore, they encountered fifty four trees, forty three shrubs, ten climbers, twenty eight herbs and three grasses/sedges.

Ogbole *et al*. (2010) also worked in five local governments in Ogun State investigating the different plants used in treating inflammatory diseases using semi structured questionnaires administered to traditional medical practitioners, herbalists and herb sellers. Among the species they enumerated were also some of those encountered in the Redemption city survey. Common species to both studies include *Alstonia boonei*, *Vernonia amygdalina*, *Citrus aurantifolia*, *Cassia fistula*, *Alternanthera sessilis*, *Alchornea cordifolia*,

Combretum zenkeri, *Carica papaya*, *Xylopia aethiopica*, *Dioclea reflexa*, *Citrus limon*, *Corchorus olitorius*, *Ananas comosus*, *Celosia argentia*, *Aframomum melegueta*, *Piper guineensis*, *Cocos nucifera*, *Vigna unguiculata* and *Abrus precatorius*.

Sofidiya *et al.* (2007) had carried out a survey on the different plants used as anti-inflammatory agents in herb markets in Lagos. They recorded forty one plants belonging to twenty three families through direct interview with traditional herb sellers. They outlined the botanical and local names of each, together with the part used, method of preparation and administration. The most commonly used parts of the plants were the leaves.

Ndukwu and Ben-Nwadibia (2005) worked on the ethnomedicinal potentials of different plants used as spices and condiments in the Niger Delta. They had listed 24 species cutting across ten plant families among which were *Dennettia tripetala*, *Xylopia aethiopica*, *Ocimum americanus*, *O. gratissimum*, *O. canum*, *O. basilicum*, *O. viride*, *Myristica fragrans*, *Piper guineensis*, *P. nigrum*, *P. umbellatum*, *Capsicum annuum*, *C. frutescens*, *C. minimum*, *Aframomum melegueta*, *Zingiber officinale*, *Murraya koenigii*, *Allium cepa*, *A. sativum*, *Thymus vulgaris* and *Pergularia daemia*.

Again, Okujagu *et al.* (2008) following the establishment of the Nigeria Natural Medicine Development Agency undertook a survey of medicinal plants in the Southeast, North east, North central and Southwestern parts of Nigeria through questionnaires and interviews of both scientists and traditional medicine practitioners.

Furthermore, Odugbemi (2006, 2008) undertook a comprehensive study of medicinal plants in Nigeria highlighting their names, botanical families, distribution, their uses, parts used, mode of preparation. He also reviewed works done by different researchers on some of these medicinal plants. He had listed 831 medicinal plant species with illustrations which are very useful in their collection and identification. Most of his data were got through interviews of traditional healers. He challenged scientists to undertake quality researches to validate the claims of the traditional healers on the uses of these plants.

Ubom (2010) documented the ethnobotanical and biodiversity conservation of plant resources in the Niger Delta Nigeria and listed about three hundred and thirty nine plant species which are used by the Niger Delta dwellers for purposes such as medicinal, food/condiments, fuel, commercial uses (fruits, beverages, timber, spices, thickeners etc). Commonest among these were *Acanthus montanus*, *Anthocleita vogelii*, *A. djalonensis*, *Antiaris africana*, *Alstonia boonei*, *A. congoensis*, *Elaeis guinensis*, *Raphia hookeri*, *Dacryodes edulis*, *Cocos nucifera*, *Irvingia gabonensis*, *Hevea brasiliensis*, *Pterocarpus santalinoides*, *Lonchocarpus cayanescens*, *Milicia excelsa*, *Daniellia ogea*, *Newbouldia laevis*, *Napoleoona vogelii*, *Mimosa pigra*, *Nauclea diderrichii*, *Musanga cecropioides*, *Paullinia pinnata* and a host of others.

From the foregoing, a lot of research has been going on to ascertain whether the claims of the traditional medicine healers were true and more work still have to be done in order to extract the active ingredients contained in these plants and to promote the need for their conservation through awareness programmes in villages, seminars, workshops etc. This study would document the plant resources available for research, so that both researchers and students will have a better understanding of plant biodiversity, conservation practices and the different medicinal plants within their reach.

MATERIALS AND METHODS

Selection of study site: The Redemption Camp in Ogun state, South-west Nigeria is the international Headquarters of the Redeemed Christian Church of God (RCCG), a Nigeria-based Pentecostal Holiness ministry (Fig. 1). It covers an area of five square kilometers and falls within the moist equatorial/tropical rainforest belt of Nigeria known for its rich reserve of both economic and medicinal plants. The Redemption camp is the temporary site of the Redeemer's University, one of the Private Christian Universities in Nigeria. It is a bustling city with hundreds of residential houses; a full-fledged Bible College, a nursery, primary and a secondary school, along with hundreds of hostels and chalets, a 3-star hotel, an international guest house with many suites, office complexes of international standard, exquisite restaurants, and massive auditoriums and the University (Ojo, 2010). The Camp was divided into eighteen zones demarcated by the major roads. The occurrences of the different plants were recorded once in each zone. Their growth state, life forms and GPS locations were taken with the GARMIN GPS 72 (Table 1). Photographs of the different plant species were taken with an Olympus Camera.

Preparation of herbarium specimens: Plant parts such as leaves, flowers, fruits etc were taken using a secateur.

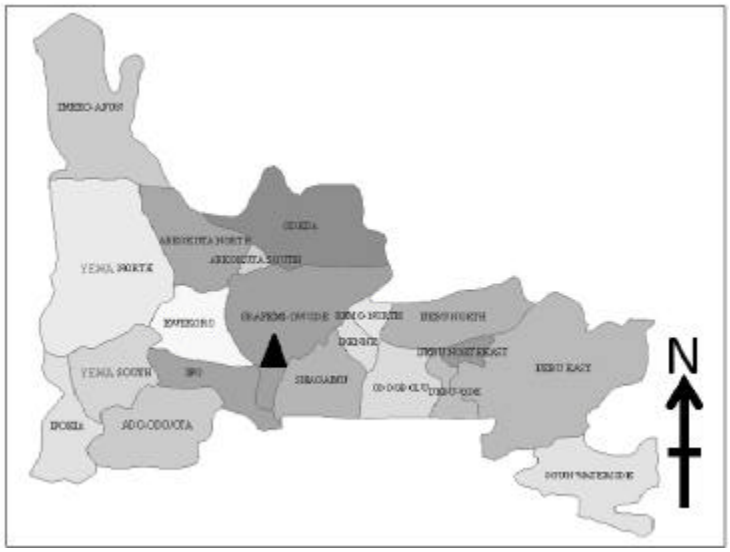

Fig. 1: Map of ogun state nigeria with triangle showing studied location

Table 1: Species distribution according to families

S/No	Families	No. of species
1	Acanthaceae	7
2	Agavaceae	1
3	Alistamataceae	1
4	Amaranthaceae	6
5	Amaryllidaceae	1
6	Ampelidaceae	1
7	Anacardiaceae	3
8	Annonaceae	6
9	Apocynaceae	10
10	Araceae	10
11	Aristolochiaceae	1
12	Asclepidaceae	3
13	Asteraceae	20
14	Asteliaceae	1
15	Athyriaceae	1
16	Basellaceae	2
17	Bignoniaceae	5
18	Bombacaceae	2
19	Boraginaceae	2
20	Bromeliaceae	1
21	Bruseraceae	1
22	Caesalpiniaceae	3
23	Cannaceae	2
24	Capparidaceae	4
25	Caricaceae	1
26	Casuarinaceae	1
27	Celastraceae	2
28	Chenopodiaceae	1
29	Cleomataceae	1
30	Combretaceae	8
31	Commelinaceae	3
32	Compositae	3
33	Connaraceae	2
34	Convolvulaceae	10
35	Costaceae	1
36	Crassulaceae	1
37	Cucurbitaceae	9
38	Cycadaceae	2
39	Cyperaceae	16

Table 1: Continued

S/No	Families	No. of species
40	Davalliaceae	2
41	Dennstaedtiaceae	1
42	Dichapetalaceae	1
43	Didiereaceae	1
44	Dioscoreaceae	4
45	Dracaenaceae	3
46	Ebenaceae	2
47	Euphorbiaceae	32
48	Fabaceae	19
49	Gramineae	1
50	Heliconaceae	1
51	Hypericaceae	1
52	Icacinaceae	1
53	Irvingaceae	2
54	Lamiaceae	8
55	Lauraceae	1
56	Lecythidaceae	1
57	Leeaceae	1
58	Leguminosae	18
59	Lemnaceae	1
60	Liliaceae	3
61	Loganiaceae	4
62	Lythraceae	2
63	Malvaceae	11
64	Maranthaceae	2
65	Melastomaceae	2
66	Meliaceae	3
67	Menispermaceae	3
68	Moraceae	16
69	Moringanaceae	1
70	Musaceae	3
71	Myristicaceae	1
72	Myrtaceae	5
73	Nyctaginaceae	1
74	Nympheaceae	1
75	Ochnaceae	1
76	Olacaceae	1
77	Onagraceae	4
78	Palmaceae	10

Table 1: Continued

S/No	Families	No. of species
79	Pandaceae	1
80	Papilionaceae	3
81	Passifloraceae	4
82	Pedaliaceae	1
83	Periplocaceae	1
84	Phyllanthaceae	1
85	Pinaceae	3
86	Piperaceae	2
87	Poaceae	42
88	Polygalaceae	1
89	Polygonaceae	2
90	Polypodiaceae	5
91	Portulacaceae	2
92	Pteridaceae	1
93	Rosaceae	1
94	Rubiaceae	15
95	Rutaceae	4
96	Salviniaceae	1
97	Samundaceae	1
98	Santalaceae	1
99	Sapindaceae	6
100	Sapotaceae	1
101	Scorphulariaceae	1
102	Selaginellaceae	1
103	Smilaceae	1
104	Solanaceae	12
105	Sphenocleaceae	1
106	Sterculiaceae	8
107	Thelypteridaceae	1
108	Tiliaceae	5
109	Urticaceae	1
110	Ulmaceae	1
111	Verbenaceae	6
112	Vitaceae	1
113	Zingberaceae	4
Total		472

Parts of tall trees were got using a wooden pole. These samples were taken, poisoned, pressed and the papers changed daily until well dried. The dried samples were preserved in the temporary herbarium of Redeemer's University.

Plant identification: Identification were done using Flora of West Tropical Africa (Hutchinson and Dalziel, 1968); Nigerian Trees (Keay *et al*., 1964); Outlines and Pictures of Medicinal plants in Nigeria (Odugbemi, 2006, 2008); Medicinal plants of Nigeria (North-Central, South-West and South-East) By Okujagu *et al*., 2008 Nigeria Natural Medicine Development Agency, Lagos; Guide to West African Weeds by Akobundu and Agyakwa (1987) and Handbook of African Medicinal Plants by Iwu (1993).

Plant authentication: Authentication was done by Mr. Benjamin Daramola and Mr. Thomas Odewo of the University of Lagos Herbarium/Forestry Research Institute Nigeria at Ibadan.

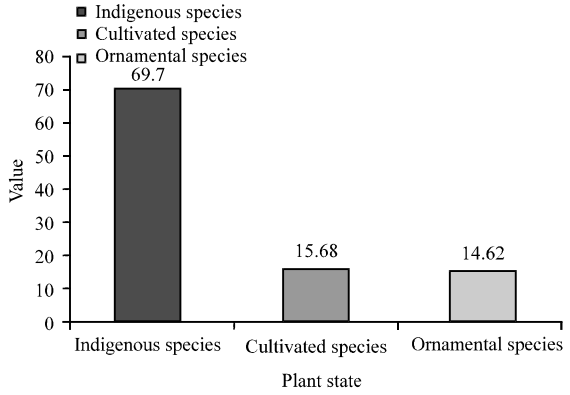

Fig. 2: Percentage plot of the plants growth state

Statistical analysis: Percentages, statistical means and frequencies were employed to analyze the data generated. The differences in floral composition between the different zones and plant families were analyzed using ANOVA.

RESULTS AND DISCUSSION

A total of 472 plant species were recorded which belonged to 113 families. About two hundred and eighty have been documented as having medicinal potentials by Gbile and Adesina (1986), Sofowora (1982, 1993), Iwu (1993), Obute and Osuji (2002), Odugbemi (2006, 2008), Nwosu (2002), Okujagu *et al*. (2008), Sofidiya *et al*. (2007) and Olowokudejo (1987). Displayed in Fig. 2, are the percentage plot of totals of the plant growth states. The indigenous/wild species dominated the Redemption Camp flora accounting for 68.70% followed, respectively by the cultivated plants and the ornamentals (Fig. 2). This suggests that part of the original flora is still retained though most of the shrubs and even, some trees appeared to have re-grown from earlier felled parents thus revealing the effects of anthropogenic activities. Furthermore, Fig. 3 shows the distribution of Families with greater than five recorded species. The most diverse were the (Poaceae) grasses with 42 species, followed successively by Euphorbiaceae (32), Asteraceae (20), Fabaceae (19), Leguminosae (18), Moraceae (16), Cyperaceae (16), Solanaceae (12), Rubiaceae (12), Malvaceae (11) etc.

The most common species encountered in all the sites were *Chromolaena odorata*, *Ageratum conyzoides*, *Aspilia africana*, *Euphorbia heterophylla*, *Tridax procumbens*, *Solanum torvum*, *Sida acuta*, *Sida cordifolia*, *Urena lobata*, *Acalypha fimbriata*, *Panicum maximum*, *Spigellia anthelmia*, *Phyllantus amarus* and

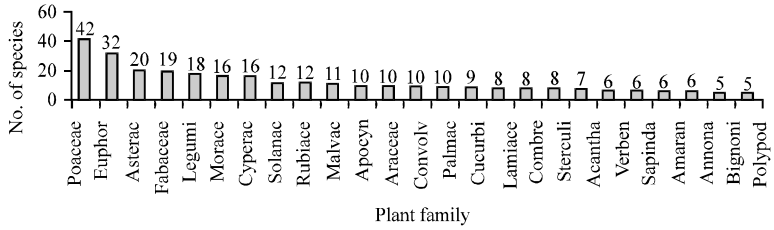

Fig. 3: Plot of genera with total recorded species greater than or equal to five

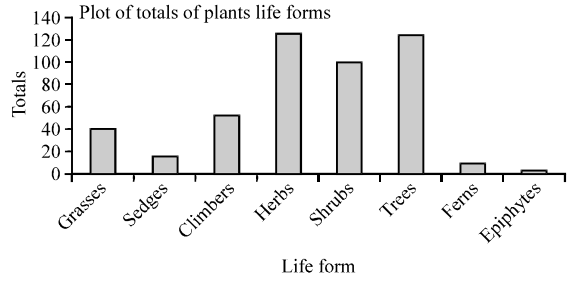

Fig. 4: Plot shows the totals of the plant's Life Form

Cyperus haspan, etc. which are herbs and shrubs. These are among the most dominant species after the tree species (Fig. 4).

DISCUSSION

The importance of the varied species of plants and animals in our environment cannot be overemphasized. Alarmed by the rate of biodiversity loss, the UN declared 2010 as the year of biodiversity. According to FAO (1999), 90% of the original moist forest in West Africa has gone and the leftover is heavily fragmented and degraded. The tropical rainforest is especially home to different species of plants, monkeys, hogs, birds, squirrels, snails, bats, birds, butterflies and the elephant. The continuous and uncontrolled destruction of the habitats of these species has led to both extinction and migration. Based on this Gockowski (2011) writing for the International Institute of Tropical Agriculture and pondering on the loss of biodiversity in West Africa posited that we ll never know how many cures for diseases have disappeared along with the forest. As far back as 1992, the Nigerian Federal Environmental Protection Agency (FEPA) had reported that over 43% of the total geographical area in Nigeria has been lost to human activities within 12 years. In Nigeria various workers have tried documenting the vast plant resources and their innumerable benefits. Ayodele (2005), Essien *et al.* (2008), Gbile and Adesina (1986), Ibe and Nwufo (2005), Iwu (1998), Ndukwu and Ben-Nwadibia (2005), Kadiri *et al.* (2010), Nwosu (2002), Obute and Osuji (2002), Odugbemi (2008), Okujagu *et al.* (2008), Sofidiya *et al.* (2007), Sofowora (1982, 1993) and Ubom (2010), among others had all carried out ethnobotanical surveys in different regions of Nigeria. Apart from mere listing of these medicinal plants, Okujagu *et al.* (2008) also highlighted the contents of these plants among which those recorded in the Redemption Camp include alkaloids (*Acanthus montanus, Colocasia esculenta, Alstonia boonei, Cleome ciliata, Ageratum conyzoides, Newbouldia laevis, Afzelia africana, Aspilia africana*, *Bryosocarpus coccineus, Ipomea batatas*, *Bryophyllum pinnatum, Citrillus vulgaris, Dioscorea bulbiferum, Alchornea cordifolia, Securinega virosa* etc., saponins (*A. boonei*, *N. laevis*, *Aspilia africana*, *D. bulbiferum*); tannins and resin(*Amaranthus spinosus*, *N. laevis*, *Bombax bounopozense*, *Afzelia africana*, *Dialium guineense*, *I. batatas*, *Bryophyllum pinnatum*, *Alchornea cordifolia*, *Bridelia micrantha,)*; while others like *Phyllantus muellerianus* apart from all the aforementioned do contain other substances such as inulin, *Ricinus communis* (Olein, Tryptophan, Methionine, Cystine, Potassium nitrate, Ricinic acid, Ricinolein and Palmitin); *Zea mays* (Amylase, Amylo-Pectin and Amylo-hemicellulose); *Hyptis suaveolens* (Essential oil, Terpenes and Alkaloids); *Ocimum canum* (Camphor, Methyl cinnatinate, Essential oils, Terpenes); *Senna podocarpa* (Anthraquinones, Azulene, Saponins and Tannins); *Spigelia anthelmia* (Spigeline and Akaloids); *Anthocleista djalonensis* (Alkaloids, Inulins, Saponins and Glycoside-logamin); *Centrosema pubescens* (Tannins, Sponins, Fats and oils); *Anona senegalensis* (Anonaine, Hydrogen cyanide, Alkaloids, Glycerides, unsaturated tannins); *Aristolochia albida* (Aristolochic acids, Aristolachine, Aristinic acids, Aristidinic acids); *Calotropis procera*(Calotropin, Calotoxin, Resinols, Calactin, Uscharin, Gigantin, Cardiac glycosides); *Acanthospermum hispidum* (Alkaloids, Saponins and Tannins); *Vernonia amygdalina* (*Vernonin, Glycosides*); *Ceiba pentandra* (cellulose, pectin, Lignin, Ash, Sesquiterpene, lactones).

Interestingly, almost all the species recorded in this study have been documented earlier by other investigators as being economically important either in folk medicine, as vegetables, food, spices etc

(Essien *et al*., 2008; Odugbemi, 2006, 2008; Ibe and Nwufo, 2005; Iwu, 1998; Okujagu *et al*., 2008; Sofidiya *et al*., 2007; Sofowora, 1982, 1993; Ubom, 2010; Karim *et al*., 2011). The occurrence of these species in the Redemption Camp attests to the common flora in Southwestern Nigeria as opposed to those from the North or Southeast (Bhat *et al*., 1990; Ogbole *et al*., 2010; Sofidiya *et al*., 2007; Soladoye *et al*., 2005). Soladoye *et al*. (2010) in their survey of the anti-cancer plants in Ogun State, Nigeria had listed fifty four plants among which those encountered in the Redemption Camp floral survey were *Anchomanas difformis*, *Crinum jagus*, *Magnifera indica*, *Xylopia aethiopica*, *Bryophyllum pinnatum*, *Secamone afzelii*, *Vernonia amygdalina*, *Alstonia congensis*, *Ananas comosus, Terminalia avicennioides, Culcasia scandens*, *Calotropis procera*, *Pistia stratiotes*, *Spathodea companulata*, *Securinega virosa*, *Musa sapientium*, *Brysocarpus coccineus*, *Napoleona vogelii*, *Harungana madagascarensis*, *Ocimum basilicum*, *Senna alata*, *Senna fistula*, *Berlinia grandiflora*, *Anthocleista djalonensis*, *Antiaris africana*, *Olax subscorpioidea*, *Pycnanthus angolensis* and *Nymphaea lotus*.

Furthermore, the list of this present study cuts across the wild/native plants, cultivated and ornamental plants. From the latter two groups were such species as *Annona muricata, Magnifera indica, Persea americana, Jatropha curcas, Cocos nucifera, Elaeis guineensis, Tabeubia rosea, Pisidium guajava, Citrus aurantifolia, Hura crepitans, Cordyline fructiosa, Lawsonia inermis, Terminalia catappa, Abelmoschus esculentum, Corcorus olitorius, Irvinga gabonensis, Xanthosoma sagittifolia, Cymbopogon citratus*, *Allamanda cartatica, Ocimum gratissimum, O. canum, O. basilicum*, *Dioscorea alata, D. rotundata*, *D. dumentorum, Aloe vera, Telfairia occidentalis, Spondias mombin*, *Treculia africana, Artocarpus utilis* and *Ficus benjamina*. This further confirms their economic importance and the need to have them conserved for future generations.

A seminar to disseminate these findings has been made before other faculty members and students at Redeemer's University to acquaint them about the vast resources available in the Redemption Camp and the need to harness them and conserve them before they are cleared away. These results were also presented at the annual conference of the Botanical Society of Nigeria held at Nnamdi Azikiwe University Awka, Nigeria in June 2011. Among the recommendation made were (1) the need to conserve the remaining forests around the Camp and the establishment of Green Areas (2) funding for the establishment of a modern functional herbarium in Redeemer's University for efficient research on these plants (3) researchers were encouraged to undertake collaborative studies on these plants as the search for new drugs continues. The conservation strategies highlighted were (1) the preservation of collected, dried and mounted specimens in a well organized herbarium (2) public awareness on the need to conserve our biodiversity such as the seminars delivered and 3) the establishment of a medicinal plant farm in the Redeemer's University for multiplication and preservation of these plants so as to make them easily accessible to researchers.

CONCLUSION

The diversity and floristic richness of the Redemption Camp was highlighted and the numerous medicinal plants listed, hence the need for extensive research on these plants is of utmost priority so that new drugs to combat the different human, animal and even plant diseases could be formulated.

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