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ETHNO BOTANICAL SURVEY OF MEDICINAL PLANTS SPECIES USED FOR THE TREATMENT OF TROPICAL DISEASES IN FEDERAL POLYTECHNIC ILARO WESTERN NIGERIA

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ABSTRACT

This study was carried to examine medicinal plant species that is used to treat tropical diseases and provide information that will be used for tourism planning in tourism village Federal polytechnic Ilaro southwestern Nigeria. The objective of the study was to investigate the indigenous use of plant species in the treatment of tropical diseases in the tourism village and provide a wider database on the use of forest plant parts especially leaves in indigenous healthcare, as this will help the medicinal tourism influx. Data was collected using field surveys and visiting traditional medicine homes for parts the used for the treatment of common diseases. Field trips were embarked upon for two months from May and June 2021 for medicinal plant species identification. In all, fifty nine (59) plant species were identify to be used to treat diseases such as malaria, typhoid fever, dysentery, blood pressure, cough and others. The family composition of plant species in the study area indicate that 27families were identified, with Fabaceae having the highest number plant species of eight (8), this is followed by Apocynaceae with five (5) plant species. The Simpson_1-D diversity index showed that plant species was high (0.9464) in the study area.

Key words: Tourism village, medicinal, plant species, tourism, planning

INTRODUCTION

Nigeria is endowed with a variety of plant and animal species, there are about 7, 895 plant species identified in 338 families and 2, 215 genera (Abubakar, *et al*, 2007). Plants vary in size and complexity from small, nonvascular mosses, which depend on moisture to giant Sequoia trees. Plants are mainly autotrophs and serve economic and cultural roles for the growing human population. In addition, plants are essential in ecosystem stability (Soladoye,etal, 2010). Medicinal plants constitute an effective source of both traditional and modern medicine. These plants have been shown to have genuine utility and about 80% of the rural population depends on them as primary health care (Sofowora, 2013). Plants have been used as sources of remedies for the treatment of many diseases since ancient times and people of all continents especially Africa have this old tradition. Despite the remarkable progress in synthetic organic medicinal products of the twentieth century, over 25% of prescribed medicines in industrialized countries are derived directly or indirectly from plants (Newman et al., 2011). However, plants used in traditional medicine are still understudied ((**Sodipo,** and Wannang, 2015).

COLLECTION

The study was carried out in the Tourism village at the Department of Leisure and Tourism management Federal Polytechnic Ilaro Ogun state Nigeria. Data was collected using field surveys (Igbarese and Ogbole 2018). Field trips were embarked upon for two months from May and June 2021 for

medicinal plant species identification. The plants collected were identified by their vernacular names and their scientific equivalent found and documented. Identification of herbs as well as their uses was done with the aid of a book of the Nigeria (Gbile and Soladoye, 2012) while the inventory of available herbs was recorded. The literature on medicinal plants was searched to back up the claims by the traditional practitioners. Also, parts of medicinal plants not readily identifiable were taken to the herbarium at the Department of Forestry and Wood technology, the Federal University of Technology Akure for proper identification. Plant parts mostly leaves were put in the press for proper preservation

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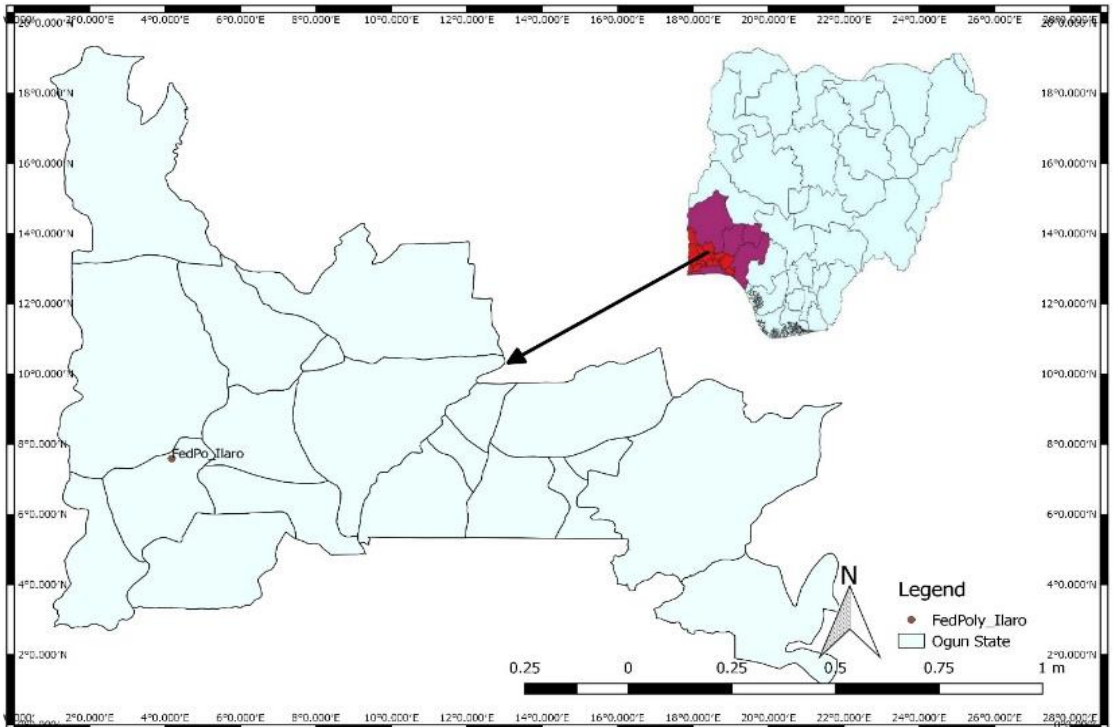
Statistical Analysis

Data obtained from the field survey were entered into Excel spreadsheet before both descriptive (tables, frequency, and graph). The computer PAST Model version 3 was used to analyze plant species diversity indices,

RESULTS

The result showed that the study area is rich in plant species that is used for the treatment of tropical diseases. In all, total of fifty nine (59) plant species were identify to be used to treat diseases such as malaria, typhoid fever, dysentery, blood pressure, cough and others Table 1. The family composition of plant species in the study area indicate that 27families were identified, with Fabaceae having the highest number plant species of eight (8), this is followed by Apocynaceae with five (5) plant species Appendix1. The Simpson_1-D diversity index showed that plant species was high (0.9464) in the study area Appendix 2.



Nigeria

Figure 1, Map of the study area. (Source: Okosodo *al e*l 2020 DATA)

Table 1, Medicinal plant species recorded in the study

Local name	Scientific Name	Family	Uses	Parts Used
Ipin	*Ficus exasperata*	Moraceae	Reduces high blood pressure	Leaves
Isin	*Blighia sapida*	Sapindaceae	Malaria	Fresh apex leaves
Sapo	*Anthoceleista nobilis*	Loganiaceae	Dysentery	Roots
Dongo yaro	*Azadirachta indica*	Meliaceae	Bio pesticides and malaria and typhoid fever	Leaves, bark and roots
Oruwo	*Morinda lucida*	Rubiaceae	Malaria and typhoid fever	Leaves and bark
Irosun	*Baphia nitida*	Fabaceae	Local powder prevent skin baby rashes	Leaves
Akoko	*Newbouldia laevis*	Bignoniaceae	Dizziness and dysentery	Leaves
Ibepe	*Carica papaya*	Caricaceae	Malaria, typhoid and ulcer	Unripe fruits and leaves
Obi edun	*Cola melleni*	Sterculiaceae	Typhoid fever	Leaves
Cashew	*Anarcadium occidentalis*	Anacardiaceae	malaria and cough	Leaves and bark
Laali	*Lawsonia inermis*	Lythraceae	malaria, nail and foot painting to prevent cuts	Leaves
Agbayun	*Snysepalum dulcificum*	Sapotaceae	Bio sweetener	Fruits
Oguro	*Entada*	Leguminosa	Anti-	Leaves,

be	*africana*	e	inflammatory, antioxidant antibacterial	barks, and seeds
Oro	*Irvigia gabonesis*	Irvingiaceae	Vitamin c, diabetes, reduce cholesterol	Fruits and seeds
Afon	*Treculia africanan*	Moraceae	Protein, reduce blood pressure. Asthama, sore throat treatment	Leaves, barks, seeds and roots
Awin	*Dialium guineense*	Fabaceae	Vitaminc, anti ahemmorrhoidal, anti-vibrio,anti-hepatotoxic, anti-ulcer	Leaves, bark, and fruits
Isin – igbo	*Blighia welwithil*	Sapindaceae	Relieve kidney pain anti-purgative, used as aphrodisiac	Leaves, and roots
Ira	*Bridelia ferruginea*	Phyllanthaceae	Typoid fever	Bark
Ekika	*Milletice cerriceus*	Papilionideae	Malaria	Leaves
Asunyin oyinbo	Senna alata	Fabaceae	Diabetes, typhoid, malaria, asthma, ringworms, tinea infections, eczema	Leaves, flowers, and stem
	Ficus thoniigii	Moraceae	Increase blood level	Leaves
Ire	*Futunia Elastical*	Apocynaceae	Malaria	Leaves
Awusa	*Tetracarpidium conophorom*	Euphorbiaceae	Sources of vitamin B6,B7 and E Low the risk	Leaves,fruits

			of heart disease, reduce the risk diabetes, reduce the risk of cancer	
Aridan	*Tetrapliural Tetrapliural*	Fabaceae	Spices, typhoid fever	Friuts, seeds and bark
Afofor o	*Trama orientalis*	Ulmaceae	Malaria	Leaves
Mango	*Magnifera inndical*	Anacardiace ae	Malaria and typhoid fever	
Pandor o	*Kigelia Africana*	Bignoniacea e	Typhoid and asthma	Bark, roots, fruits
Agbal umo	*Chrisophyllum albidun*	Sapotaceae	Malaria, typhoid fever	Bark and seeds
Atare	*Zingibal officinale*	Zingiberacea e	Spices, Malaria and typhoid fever	Seeds
Ayunr e	*Albizai spp*	Fabaceae	Pain and Malaria fever, Anxiety, Cancer, depression, Insomnia	Bark,flowers
Odunk u	*Ipomea batatas*	convolvulac eae	Source of fiber help lose weight, prevent heart diseases, helping cholesterol and blood sugar in check.antioxid ants	Tuberess, leav
	Sterculier oblonga	sterculiaceae	Wild vegetables	Conservatio nal plants
Pala	*Pentaclethra macrophylla*	Leguminosa e	Gonorrhea, convulsions, anti-inflammatory and anthelmintic, laxative	Leaves, stem, fruits and seeds
Omisi	*Abrus*	Fabaceae	Tuberculosis	Leaves and

nmisin	*precatorius*		and painful swelling, laxative and expectorant, aphrodisiac medicines	seeds
Asofeyeje	*Rauvolfia vomitoria*	apocynaceae	Sedation	Roots
Eweigbale	*Moringa oleifera*	Moringaceae	Medicinal, bio purification of water, treating edema, protecting liver, treat cancer, stomach complaints, bacterial diseases and mood disorders	Leaves barks, stem, and roots
Osan	*Citrus species*	Rutaceae	Source of vitamin	Fruits
Lapalapa (botuje)	*Jatropha curcas*	Euphorbiaceae	Bio diesel, Blood clothing	Leaves and seeds
Bomu bomu	*Calotropis procera*	Apocynaeae	Digestive disorder, diarrhea ,constipation and stomach ulcers Fulanis used to cook wara for sales	Leaves, roots
Uhinin	*Alchornea cordifolia*	Euphorbiaceae	Malaria	Leaves
Ube	*Dacrodes edulis*	Burseraceae	Source of vitamin, treat wound, treat skin diseases, typhoid fever, antimicrobial and dysentery	Fruits, leaves, bark and roots
Okuru	*Hildegardia*	Malvaleseae	Mat	Bark

gbedu	*barteri*		production	
Atewo – edun	*Cola hispida*	Sterculiaceae	Conservation	Fruits
Orodo	*Cola lateritia*	Sterculiaceae	Conservation	Fruits
Erunje	*Xylopia aethiopica*	Annonaceae	Spices, Typhoid fever	Leaves and seeds
Iyeye	*Spondias mombin*	Anacardiaceae	Diuretic and gonorrhea febrifuge, diarrhea, dysentery hemorrhoids, and leucorrhea	Fruits and bark
Gbegbe	*Icacina trichantha*	Cacinaceae	Food poisoning	Leaves
Ewe – aje (kaba)	*Myrianthus arboreus*	Moraceae	wild vegetable, chest pain heart problems, pregnancy problems hernia	Fruits, leaves and bark
Jaganyin	*Citerus medicavaracida*	Rutaceae	Typhoid fever	fruits
Igisogba	*Crescentia cujete*	Bignoniaceae	Drinking palm wine tumor and hypertension stomachache	fruits
aeGilofa (goba)	*Psidium guajava*	Myrtaceae	Malaria, Source of vitamins	Leaves
Efinrin - nla	*Ocimum gratissimum*	Lamiaceae	Malaria, dysentery,	Leaves
Sour sap	*Anona muricata*	Annonaceae	Arthritis pain, rheumatism neuralgia, weight loss Source of vitamin	Fruits and leaves
Tamarid	*Tamaridus indica*	Fabaceae	Wound healing, abdominal	Leaves, bark, seeds

			pain, malaria diarrhea, parasitic infection,	
kassia	*Cassia hrusta*	Fabaceae	Dysentery, malaria	Bark, flowers
Ewe tea	*Cymbopogon citratus*	Poaceae	Malaria	leaves
Ewuro	Vernonia amygdalina	Asteraceae	Typhoid fever, enhances detoxification, metabolic rates, natural anti-parasitic actions	Leaves, stem
Abere	Hunteria umbellata	Apocynacea e	Typhoid fever, leprosy sores, stomach and liver problems	seeds
Jack Fruit	Altrocarpus heterophylla	apocynaceae	Seeds source of protein, anti-bacteria, antifungal, anti-inflammatory and antioxidant activities	seeds

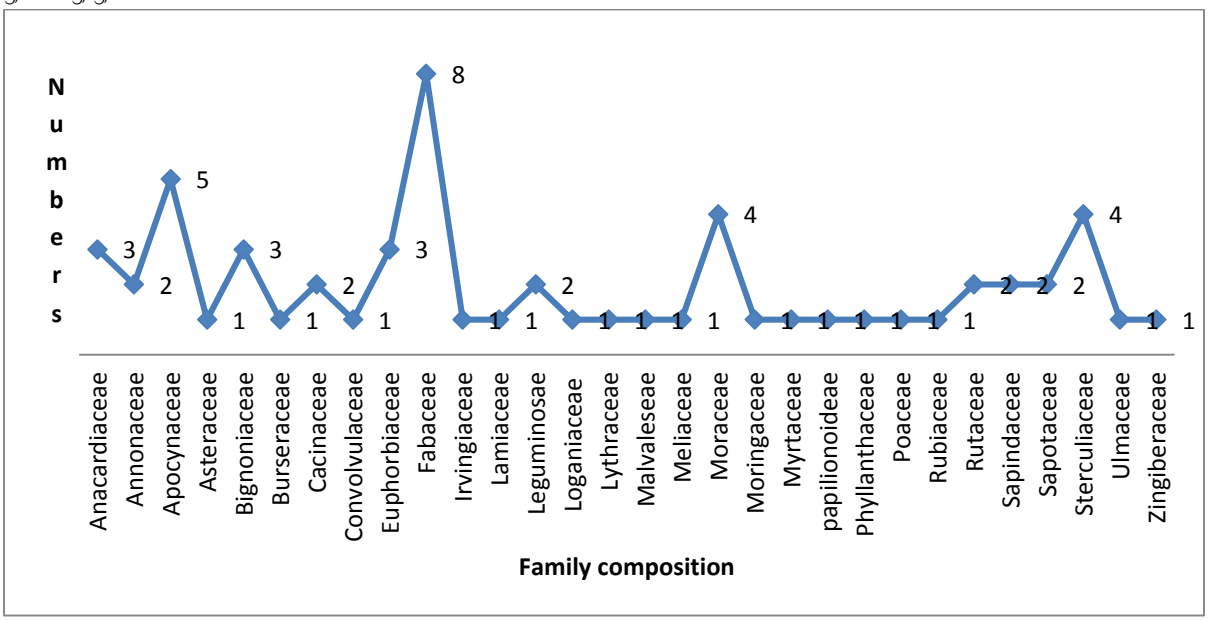


Figure 2, Family composition of trees in the study area

Table 2, Diversity index of plant species in the study area

Diversity index	Tourism village	Lower	Upper
Taxa_S	58	45	55
Individuals	145	145	145
Dominance_D	0.0536	0.04105	0.07843
Simpson_1-D	0.9464	0.9215	0.959
Evenness_e^H/S	0.5924	0.527	0.6917
Brillouin	3.065	2.834	3.137
Menhinick	4.817	3.737	4.568
sMargalef	11.45	8.841	10.85
Equitability_J	0.8711	0.836	0.9065

DISCUSSION

This long age practice of herbal medicinal prescription by traditional healers have advantages of easy accessible, affordability

and the only therapy that exists before the advent of orthodox medicine (Sofowora, 1993) Many of the plants mentioned have histories of their proven effectiveness against several ailments Numbers of herbal practitioners believed that herbs are the basis of medicine and its use in treatment of diseases should be advocated *(Adewole and* ***Abiaziem, 2019).*** In all, a total of fifty nine (59) plant species belonging to 27 family were identify to be used to treat common diseases such as malaria, typhoid fever, dysentery, blood pressure, cough and others. These findings are similar to those used to treat malaria and typhoid fever (Agbovie *et. al*., 2002). It is also consistent with the work of several researchers who carried similar ethnobotanical surveys in Nigeria. Aguoru and Ogaba, (2010) reported that *Bambusa vulgaris, Mangifera indica, Ananas comosus, Carica papaya, Ocimum gratissimum, Azadirachta indica, Psidium guajava, Citrus aurantifolia,* and *Moringa oleifera* were used in the treatment of typhoid amongst the Idoma people of Benue state. Halimat *et al.,* 2017 also reported that *Mangifera indica, Alstonia boonei, Ananas comosus, Carica papaya, Ocimum gratissimum, Azadirachta indica, Psidium guajava, Sarcocephalus latifolius, Citrus aurantifolia, Citrus paradisi, and Zingiber officinale* were used in the treatment of typhoid in Minna, Niger State, Okosodo and Sarada 2021 who reported same plant species were used to treat malaria, typhoid fever and cough in Omo forest reserve south western Nigeria.

This study affirmed that herbal medicines have great potentials to cure different kinds of tropical neglected diseases. The study also revealed that there was high diversity of medicinal plants and traditional knowledge about the use, preparation and applications of these medicinal plants. Traditional Systems of (WHO) reported that plants are usually the major component of traditional medicine (Global Initiative for (World Health Organization, 2003). During the field survey we observed the barks, roots and leaves of these plants were collected by some people who used it for medicinal purposes. The leaves of these plants were used singularly or in combination with other herbal materials in the fresh or dried forms which are either in the combination of other herbal roots, flowers, and gum of other plant species (Adekule, 2008). The Simpson diversity of medicinal plant species was very high judging of the land mass of the study area, offers large possibilities for their rational use due to lack management plan (Samardžić, 2014).

CONCLUSION AND RECOMMENDATION

Ethno survey of medicinal plant will effectively provide insight to many African herbs that can treat different ailments most especially schistosome, a tropical neglected disease. Health and wellness tourism has grown throughout the world and includes the consumption of much traditional medicine. Owing to its medicinal history, Nigeria has significant potential for promoting traditional medicine as a consumer product for local consumption, as an export product, and as a tourism resource.

This medicinal resources is one of the most important elements of the school intangible heritagescape that is worthy of additional consideration by tourism developers.

Based on this research study the school should facilitate the establishment of functional herbal gardens that will enhanced research medical tourism, a sense of familiarity with local biodiversity and its conservation, especially herbal plants.

The traditional use of herbal health remedies will provides significant nutritional, economic, and ecological benefits for rural communities through tourism.

Environmental and management problems are imminent such as deforestation barking of trees, defoliation of plant leaves, and overexploitation, hence efforts should be made to educate the residents on the sustainable harvest.

Efforts management plans should be set up to train local residents on the need to cultivate most of these plants around their homes.

The department of leisure and tourism management should build synergy with other related departments to carry research on medicinal plant species extract that save the world from strange diseases such as covid 19.

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