

Herbological Studies of Selected Plant Species Commonly Found In Savanna and Rain Forest Zones of Nigeria

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ABSTRACT

Twenty plant species commonly found in savanna and forest zones of Nigeria were selected for herbological studies. The research work was carried-out in 5 areas within Ibadan. The areas are Ode-aje, Idi-arere, Omi-adio, Akobo and Bode. The plant species were identified with the help of personal recognition, field guide and a taxonomist. For the medicinal uses, data was gotten from 45 respondents that included elders (above 60 years of age), hunters and night guards, herbalists and herbs sellers through interview which was recorded, processed and presented. Data gathered were common names, botanical names, family names, indigenous names (Yoruba, Hausa and Igbo), useful parts of the plants, preparation methods, routes of administration and ailments cured. The data collected from the interview were presented using statistical tool of table presentation. From the result, it was shown that the plant species identified are very useful in the area of medicinal needs of the people by combating various sicknesses and diseases such as malaria, typhoid fever, pain, sexually transmitted diseases, pile, dizziness and others with correct and adequate administered dosage. It was then concluded that traditional knowledge on health is

cheap, available and of high efficacy in Nigeria. And that all the plant species in the zones and other parts of the nation are of significant importance to sustainable health status of the people which pharmaceutical industries should embark upon in term of exploration research for improvement and utilization maximization.

Keywords: Herbological, plant chemotherapy, efficacy, ailments

INTRODUCTION

The term "herbs" refers to plants or parts of them, including grasses, flowers, berries, seeds, leaves, nuts, stems, stalks and roots, which are used for their therapeutic and health-enhancing properties. Generations of skilled herbal practitioners, researchers and scholars have refined and tested the vast science of herbology, producing thousands of plant-based remedies that are safe and effective (Medicine Hunter, 2019). Herbalism is also known as botanical medicine, medical herbalism, herbal medicines, herbology, and phytotherapy (Acharya *et al*, 2008). This concept has been long institutionalized among the people of each global region to cure themselves from sicknesses and diseases. Ajani *et al*, (2010) reported that every locality is blessed with



bundles of medicinal plants grown or cultivated closely with those that are knowledgeable in how to tap, prepare and administer the plant chemotherapy.

Medicine Hunter, (2019) stated how important plant medicines are; “the proper and judicious use of herbs is often successful in the treatment of illness when other, more conventional medicines and methods fail. Herbs can be used to cleanse the bowels, open congested sinuses, help mend broken bones, stimulate the brain, increase libido, ease pain, aid digestion, and a thousand other purposes”. On where the medicinal ingredients come from in plants, USDA, (2019) reported that medicinal properties derived from plants can come from many different parts of a plant including leaves, roots, bark, fruit, seeds, flowers. The different parts of plants can contain different active ingredients within one plant. Thus, one part of the plant could be toxic while another portion of the same plant could be harmless.

The use of plants parts to cure sicknesses and diseases is becoming increasing daily in developing countries of the world and some parts of Europe. Medicine Hunter, (2019) highlighted that while medicinal plants are the actual plants themselves, plant medicines are preparations made from those plants. Plant medicines are the most widely used medicines in the world today. An estimated **eighty percent (80%) of the world's population** employs herbs as primary medicines. And while drugstore

shelves in the US are stocked mostly with synthetic remedies, in other parts of the world the situation is quite different. In parts of Europe, for example, pharmacies dispense herbs prescribed by physicians. He further commented; Neanderthals lived from about 200,000 years ago until roughly 30,000 years ago in Europe and western Asia. They coexisted with modern humans for most of the period but then mysteriously vanished. Physical evidence of use of herbal remedies goes back some 60,000 years to a burial site at Shanidar Cave, Iraq, in which a Neanderthal man was uncovered in 1960. He had been buried with eight species of plants, seven of which are still used for medicinal purposes today.

On September 19, 1991, one of the most extraordinary discoveries of our Century took place in Austria's Otzal Alps, when two hikers discovered an ice mummy preserved by freezing. The analysis of samples of organic tissues has determined that the Iceman lived between 3350 and 3100 B.C.

The Ice Man died approximately 5200 years ago. At death he was between 40 and 50 years old and suffered from a number of medical conditions. He turned into a mummy accidentally almost immediately by the freezing weather conditions that turned him into the Ice Man. The Ice Man's possessions have given scientists a better look at what life was during the Neolithic Age in Europe. Perhaps the most valuable possession, according to many scientists,

was his “medicine kit,” containing a lump of a birch fungus used as a laxative and as a natural antibiotic.

Viewing the overall importance of plant medicinal ingredients, there is a need to assess the pool of knowledge on the use of these medicinal ingredients from knowledgeable people when they are still with us. This led to the research work investigating the herbological potentials of selected plant species in Savanna-Forest zones of Nigeria with the goal of assessing the herbological importance of plants to the people of the zones and to prepare a roadmap for phytomedicinal industries in exploration of vital phyto-medicinal ingredients.

MATERIALS AND METHODOLOGY

Study Area

The study was carried-out in 5 areas of Ibadan in Oyo State, Nigeria. The areas are Ode-aje, Idi-arere, Omi-adio, Akobo and Bode.

Materials used

Writing materials, Tape recorder and guided questionnaire were made available during the research.

Methodology and Data Collection

Five elders (60 years and above), 1 herbalist, 1 hunter/Night Guard and 2 Herb Sellers each per area were interviewed making 9 respondents per Area and 45 respondents in all.

The interview was conducted with a guided questionnaire while the response of the respondents was recorded.

Few plants were selected among many plants for solid, reliable and convincing report. Questions for interview were centered on the selected plant species.

Data was collected on parameters such as plant identifications which were carried-out through the combined methods of personal recognition and expert opinion (Taxonomist). Others include botanical name, common name, parts of the plants useful as medicines, mode of preparation, ailments the plants ingredients cured and route of administration.

Data Analysis

Data collected was processed and presented using statistical tool, table.

RESULT AND DISCUSSION

TABLE 1: LIST OF IDENTIFIED MEDICINAL PLANTS

S/N	BOTANICAL NAME	COMMON NAME	FAMILY NAME	HAUSA NAME	IGBO NAME	YORUBA NAME
1.	<i>Sida acuta</i>	Broom weed	Malvaceae	Miyantsanya		Oseptu
2.	<i>Khaya senegalensis</i>	Savanna mahogany	Meliaceae	Madaci	Ono	Kaya
3.	<i>Entada Africana</i>	Entada spp.	Mimosoideae	Tawatsa	Angaramiri	Ogurobe
4.	<i>Maytenus senegalensis</i>	Maytenus spp.	Celastraceae	Namijin tsada		Sepolohun
5.	<i>Mangifera indica</i>	Mango	Anacardiaceae	Mangoro	Ukpopa	Mangoro
6.	<i>Vitellaria paradoxa</i>	Sheabutter tree	Spotaceae	Kaida	Osisi	Emi or Igi ori
7.	<i>Crossopteryx febrifuga</i>	Fringed wing	Rubiaceae	Kasfiya or Kashinawaki		Ayeye
8.	<i>Psidium guajava</i>	Guava	Myrtaceae	Gwaiba		Gurofa
9.	<i>Azadirachta indica</i>	Neem	Meliaceae	Dogoyaro		Ponkan or Kasia
10.	<i>Terminalia glaucescens</i>	Terminalia spp	Combretaceae	Baushe	Edo	Idi odan
11.	<i>Annona senegalensis</i>	Haitian	Annonaceae	Gwanar daji	Uburu-ocha	Abo
12.	<i>Lannea schimperi</i>	Senegambia	Anarcadiaceae	Farun doya	Erinwan	
13.	<i>Pterocarpus erinaceus</i>	Wing fruit	Papilionoidaea	Madobiya	Aze egu	Osun dudu
14.	<i>Bombax costatum</i>	Silk	Bombaceae	Kurya	Akpu	
15.	<i>Detarium microcarpum</i>	Sweet dattock	Caesalpimodeae	Taura	Ofo	Ogbogbo
16.	<i>Parkia biglobosa</i>	Locust bean tree	Verbenaceae	Dorawa	Ogirli	Igba
17.	<i>Terminalia catappa</i>	Almond	Combretaceae	Baushe	Eghoinnofwaled	Igi furutu
18.	<i>Adansonia digitata</i>	Baobab	Bombaceae	Kuka/ Bumba	Usi	Igi ose
19.	<i>Prosopis Africana</i>	Malina	Leguminosaea	Kiryia	Ubwa	Ayan
20.	<i>Tamarindus indica</i>	Indian date	Caesalpinodeae	Isamiya	Icheku oyibo	Ajagbon

Field Survey, 2019

From Table 1 above, Caesalpinodeae appeared twice as plant family along side with Bombaceae, Combretaceae, Meliaceae, while others appear once. This may be as a result of their high diversity in the zones. Over 13 plant species cut across both the

savanna and the forest zones in term of presence in the areas through the naming knowledge of such species by the locals. This aligns with the view of Ajani *et al*; (2010) that the diversity of plant species of the world is so useful to us.

TABLE 2: IDENTIFICATION, ESTABLISHMENT AND ADMINISTRATION OF MEDICINAL VALUES OF SELECTED PLANT SPECIES

S/N	BOTANICAL NAME	P/USED	AILMENT/C	DRUG/P/M	ROUTES/ADMIN
1.	<i>Sida acuta</i>	Leaf	Boil, Typhoid fever	For boil, boil the leaves. For Typhoid fever, squeeze the leaves to bring out the liquid	To be drinking. For boil, 1 glass cup. For Typhoid fever, 15ml thrice daily for 7 days.
2.	<i>Khaya senegalensis</i>	Bark	Pile and stomach pain.	Pound the bark and soak in water.	Drink half a glass cup twice a day.
3.	<i>Entada Africana</i>	Root/Bark	Gonorrhoea, Pile, Cough and Worm.	For Gonorrhoea, the root is cooked. For others, the bark is soaked.	Half a glass cup twice daily for 5 days.
4.	<i>Maytenus senegalensis</i>	Leaf/Root	Toothache	The leaf and root are cooked.	The concoction is used as mouth wash twice daily for 5 days.
5.	<i>Mangifera indica</i>	Leaf/Bark	Malaria and Typhoid fever.	Leaf and bark are cooked.	Drinking 35cl twice daily for 7 days.
6.	<i>Vitellaria paradoxa</i>	Bark/Root	Gonorrhoea, and Diarrhea	The bark and root are cooked with water.	Drinking 35cl twice daily for 7 days.
7.	<i>Crossopteryx febrifuga</i>	Fruit/Bark	Cow reviving	Ground fruit mixed with potash. Cooked bark with little potash.	Given to dying animal as drinks every hour.
8.	<i>Psidium guajava</i>	Bark/Root/Leaf	Diarrhea,	The leaves,	35cl to be taken as

			Malaria and Dysentery.	bark and root are cooked with water.	drinks every hour for Diarrhea and Dysentery. For Malaria, 35cl to be taken thrice daily for 3 days..
9.	<i>Azadirachta indica</i>	Root/Bark	Malaria fever.	Cook the leaves and the bark.	Take 35cl twice daily as drinks 5 days.
10.	<i>Terminalia glaucescens</i>	Leaf/Bark	Stomach upset and Diarrhea.	Cook the root or dry and grind it. Cook the leaves.	Take the powder with pap. The drinks can be taken thrice 35clfor 3 days.
11.	<i>Annona senegalensis</i>	Leaf/Bark	Snake bite, Fresh wound and Diarrhea.	Ground the leaves and the bark fresh or dry.	Mix the powder with water and take 25cl four times daily. Or place the powder directly on the wound.
12	<i>Lannea schimperi</i>	Bark	Diarrhea and Dysentery.	The bark is cooked with water or grind and mix with water.	Take 25cl four times daily and use it to bath. Or make pap with the boiled concoction or mix the dry one with pap for 5 days.
13.	<i>Pterocarpus erinaceus</i>	Bark	Blood tonic	Soak the bark in water.	Take 35cl in the night after meal daily for 3 days.
14.	<i>Bombax costatum</i>	Bark	Pile	Soak or boil the bark with water.	Sit inside the water. Or take 25cl as drinks twice daily for 5 days.
15.	<i>Detarium microcarpum</i>	Root/Leaf/Bark/Fruit	Dysentery, Diarrhea and Sexually Transmitted Diseases (STD)	Cook the bark and root together with water. Cook the leaves with water separately.	Use the bark and root water to bath twice daily and take 35cl of the leaves thrice daily for 5 days.
16.	<i>Parkia biglobosa</i>	Root	Diarrhea, Yellow fever	Cook the root with water	Take 35cl as drinks thrice daily for 7

			and Dysentery.	with a small; potash.	days.
17.	<i>Terminalia catappa</i>	Bark/Leaf	Typhoid fever.	Boil the bark and the leaves with water.	Take 35cl four times daily for 7 days. And use it to bath twice a day for 3 days.
18.	<i>Adansonia digitata</i>	Leaf/Bark/Root	Asthma, Cough, Toothache and Yellow fever.	Soak the root and the bark in water. Dry and grind the young leaves.	Take 35cl as drinks and use it to bath for toothache and cough. For Typhoid fever and Asthma, add the ground young leaves to pap.
19.	<i>Prosopis africana</i>	Leaf/Stem/Bark	Wound and Toothache.	Boil the leaves and stem with water. Grind the bark.	Take 35cl as drinks thrice for 7 days and chewing the freshly cut stem. Apply the ground bark to the wound.
20.	<i>Tamarindus indica</i>	Seed/Root	Stomach upset and Diarrhea.	Soak the seeds in water and boil the root.	Take 35cl as drinks thrice daily for 15 days

Field Survey, 2019

P/USED = Parts used, Ailment/C = Ailments cured, DRUG/P/M = Drug Preparation Method, ROUTES/ADMIN = Routes of Administration

Table 2 above shows the plant species, their parts used and the ailment cured. Also, the mode of preparation and the administration are well explained. Fever of any form takes highest attention. This may be due to high dominance of malaria and other fever in the tropics. This is in support of the work of Gbile and Adesina, (1986) stated that the plant genetic resources of Nigeria are a veritable source of pharmaceutical and therapeutics though the plants are not adequately documented.

CONCLUSION

The study revealed that each plant species is as important as every species found in the Zones. And that herbologically, the diversity of plant species is so rich in the Zones.

With the little coverage of the plant species involved in the study, it is concluded that the dreadful malaria and other fevers that have been claiming lives have phyto-remedy which all indigenous pharmaceutical industries can research on for improvement.



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