

ETHNOMEDICINAL ASPECTS OF PLANTS USED AS SPICES AND CONDIMENTS IN THE NIGER DELTA AREA OF NIGERIA

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ABSTRACT

The ethnomedicinal applications of the plant species used primarily as spices and condiments among the indigenous peoples of the Niger Delta area of Nigeria were examined. A total of 24 species belonging to 10 different families were found to have varying applications in ethnobotany and ethnomedicine. The studies indicate that the indigenous people have also developed different methods for collecting, processing, using and conserving these valuable plants and/or their products. The contributions of this study towards the understanding, documentation and safeguarding of indigenous knowledge and use of plants are discussed.

Keywords: Ethnobotany, Ethnomedicine, spices, condiments, indigenous knowledge.

INTRODUCTION

Spices and condiments are products of plants, which are mostly used for seasoning, flavouring and thus enhancing the taste of foods, beverages and drugs (Parry 1969; Dziezak, 1989; Iwu, 1993; Manandhar, 1995). The knowledge and use of plants as spices and condiments is as old as the history of mankind (Garland, 1972). Plants used as spices and condiments are usually aromatic and pungent (Achinewu, *et al*, 1995). Iwu (1993) had reported that these plants owe these properties to the presence of varying types of essential oils. Also, Macmillan (1984) associated the antiseptic and preservative property of certain spices to these essential oils. In a more elaborate treatment Dziezak (1989) indicated that the rich presence of essential oils and Oleoresins determine the aromatic, flavouring, colouring and pungent properties on spices and condiments.

Spices and condiments constitute a huge component of trans boundary trade in areas such as India, Ceylon, China, Indonesia east and west Africa, and west Indies (Parry, 1969). The author reported that the use of spices and condiments has widened to include pickles, chutney, sausages, cakes, bread and alcoholic drinks.

In the Niger Delta area of Nigeria, many of the spices and condiments are collected from the wild. These spices and their herbs are used generally to prepare "pepper soups" which may be taken hot or cold especially during the cold, rainy seasons. Achinewu, *et al* (1995) reported that these spices are particularly very important in the diets of post-partum women as an aid to the contraction of the uterus.

Literature on ethnobotany and ethnomedicine of plants in the Niger Delta area is very scanty. Few taxonomic listings carried out in the area fail to incorporate indigenous knowledge and utilization of the plants. Information on ethnomedicinal applications, of the plant species used as spices and condiments are inadequate or completely lacking.

The present study is aimed at providing data on the ethnobotanical and ethnomedicinal applications of plants used as spices and condiments in the coastal Niger Delta area of Nigeria. Attempt is made to also

provide the most acceptable scientific, common and local, names for the various species. This information is further intended to contribute in the documentation and provision of accurate record of indigenous knowledge, use and conservation of these plants, and their subsequent integration in the efforts towards the development of natural product and indigenous health care management process.

GEO-CLIMATIC DESCRIPTION OF THE NIGER DELTA AREA.

The study area is Niger Delta, Nigeria. It covers about 26,000km² and lies in the West African subregion of the Afrotropical regions. It has a tropical hot monsoon climate and straddles latitude 5.00⁰ North of the equator. It is about 6-15m above sea level. Rainfall is high ranging between 2000-4000mm. The Niger Delta harbours Africa's largest wetland and much of Nigeria's petroleum business.

MATERIALS AND METHODS

The specimens used for this study were collected from different parts of Akwa Ibom, Bayelsa, Delta and Rivers States, which constitute the central axis of the Niger Delta area. A few of the specimens that were not readily available were purchased from the mile one market in Port Harcourt, Rivers State.

The studies involved field trips and surveys. Information were obtained through oral interviews and guided questionnaire administered to local herbalists, older household heads and women.

The indigenous plants, which were collected during the field trips, were identified with the aid of Floras of the area including those of Dalziel (1937); Hutchinson and Dalziel (1954, 1968). Ethnomedicinal confirmations were carried out using Gill (1992). Field observations and records were made on life specimens.

RESULTS

The investigations revealed that a total of 23 species distributed into 13 genera and 10 unrelated angiosperm families are used as spices and condiments around the Niger Delta area. These species were found to have varying therapeutic applications by the local communities. Their uses in ethnomedicine include acting as stimulants, antiseptic carminatives, expectorants, laxatives, purgatives, anticonvulsant, antihelmintic, and sedatives to the treatment of diarrhea, malaria, rheumatism, asthma, catarrh and bronchitis. The data on the correct identification including common - English and local names, families, plant parts used, and the ailments treated are summarized in Table 1. The details of the ailments cured the methods of preparation and treatment is further described.

TABLE 1: SUMMARY OF DATA ON SPECIES USED FOR SPICES AND CONDIMENTS

S/N	Scientific Names	Family Names	Common Names (English)	Local/Native Names	Parts Used	Ethnomedicinal Applications
1.	<i>Dennettia tripetala</i> Bak f.	Annonaceae	Pepper Fruits	Bini - ako; Ibibio/Efik-nkarika; Igbo - nmimi; Urhobo - Imako; Yoruba - igberi	Leaves, Fruits and Seeds	Cough, fever, enhancing appetite.
2.	<i>Xylopia aethiopica</i> (Dunal) A. Rich	Annonaceae	Ethopian pepper, African pepper, Guinea pepper	Bini - unien; Ibibio/Efik-atta; Igbo - uda; Urhobo-urheri; Yoruba - eeru.	Stem bark; fruits and seeds; roots	Stomach aches; dysentery; bronchitis; cancer; ulcers; fever and debility; rheumatism.

3.	<i>Pergularia Daemia</i> (Frosk.) Chior	Asclepiadaceae	Unkown	Igbo - Utazi; Yoruba-teji	Leaves, stem and root barks.	Cough, fever, catarrh and diarrhea in infants.
4.	<i>Ocimum americanus</i> L	Labiataeae	Scent leaf	Edo - esewon; Igbo-nchanwu, Urhobo-ufuo-yibo; Yoruba-efinruin-wewe.	Whole plant and leaves	Anticonvulsant, diaphoretic and carminative. It cures cough, catarrh, cold, fever, chest pains and diarrhea. Others are earache, ringworm, nasal bleeding, anti-spasmodic and relief of pains of the colon.
5.	<i>Ocimum basilicum</i> L.	Labiataeae	Sweet Basil Harry Basil	Edo - esewon; Igbo-nchanwu, Urhobo-ufuo-yibo; Yoruba-efirinpo, and efiri-ajija	Whole plant and leaves	Diaphoretic, stimulant and carminative. Juice of the leaves is antihelmintic.
6.	<i>Ocimum canum</i> Sims	Labiataeae	Scent leaf	Edo - esewon; Igbo-nchanwu, Urhobo-ufuo-yibo; Yoruba-efirin-ajase.	Whole plant and leaves	Headache, cough, gouts, catarrh conditions and gonorrhoea.
7.	<i>Ocimum gratissimum</i> L.	Labiataeae	Tea, bush	Edo - esewon; Igbo-nchanwu, Urhobo-ufuo-yibo; Yoruba-efirin-gidi	Whole plant and leaves	Diaphoretic, stimulant and carminative. Juice of the leaves is antihelmintic.
8.	<i>Ocimum guineense</i> Schum et. Thonn	Labiataeae	Scent leaves	Edo - esewon; Igbo-nchanwu-ohia, Urhobo-ufuo-yibo; Yoruba-efirinpo.	Whole plant and leaves	Diaphoretic, stimulant and carminative. Juice of the leaves is antihelmintic.
9.	<i>Ocimum viride</i> willd	Labiataeae	Scent leaf	Edo - esewon; Igbo-nchanwu, Urhobo-ufuo-yibo; Yoruba -, efirin-gidi and efiri-ajija	Whole plant/leaves	Anticonvulsant to stop diarrhea, treatment of cold, fever chest pains and treatment of catarrh and bronchitis.
10.	<i>Thymus vulgaris</i> L.	Labiataeae	Thyme	Unknown	Leaves and fruits	Antiseptic, antihelmintic, expectorant, carminative, diuretic emmenagogic and sedative.
11.	<i>Tetrapleura tetraptera</i> Taub	Leguminoseae	Unknown	Bini - Ighimiakia; Efik - edeminang; Etsako - imiminje; Igbo - Oshosho; Ijaw - apapa; Ishan - ighirehimi; Yoruba - aridan.	Stem bark and fruit pod	Flatulence, fever, convulsions, bone fractures, rheumatism, gonorrhoea.
12.	<i>Allium cepa</i> L	Liliaceae	Onion	Bini - alubarha;	Bulb and leaves	Asthma,

				Efik/Ibibio– oyim mbakara; Igb– yabasi; Yoruba - alubosa.		convulsion, ulcers, cough, cold and skin infections.
13.	<i>Allium sativum</i> L.	Liliaceae	Garlic	Igbo - ayuu; Yoruba– ayo	Bulb.	Fevers, cough, constipation, asthma, nervous disorders, hypertension, ulcers and skin diseases, antihelmintic.
14.	<i>Myristica fragrans</i> Houtt	Myristicaceae	Nutmeg, mace	Unknown	Seeds	Diarrhea, rheumatic pains.
15.	<i>Piper guineensis</i> Schum & Thonn.	Piperaceae	Climbing black pepper or Benin Pepper	Bini - ebe-ahinhi akpoke; Efik/Ibibio– etinkene, odusa; Igbo - ozeza; Urhobo– Uririe; Yoruba - Iyere, ata-iyere	Fruits and leaves	Vomiting, worm infestation, tonsillitis, rheumatism and stomach aches.
16.	<i>Piper nigrum</i> L	Piperaceae	Black pepper, white pepper	Unknown	Fruits and seeds	Dyspepsia, diarrhea, cholera, piles, urinary problems, boils, rheumatism, toothaches and headaches.
17.	<i>Piper umbellatum</i> L.	Piperaceae	Wild pepper, Umbelled pepper	Bini - ebe-ahanbi; Igbo – njam nja; Yoruba - ewe-efon; iyawe; Iwere; yawe.	Leaves, roots and fruits	Rheumatism; inflammatory tumors; stomach pains, ascites and anasarea.
18.	<i>Murraya Koenigii</i> spreng.	Rutaceae	Curry leaf	Bini - ebafo	Stem bark, roots and leaves.	Diarrhea, dysentery, vomiting, fevers, herpes and bruises, post-partum pains.
19.	<i>Capsicum annuum</i> L.	Solanaceae	Chilli, Red Pepper	Bini - isie; ekie, asie; Efik/Ibibio– ntokon; aman- ntuen; ntueen; Igbo - Ose; Ose-oyibo; Ose etore; Ose nukwu; Ose nwamkpi; ose mkpe; Yoruba– ata-jije; ata- eiye; ata sisebe.	Fruits and seeds	Cold, fever, dysentery, malaria and gonorrhoea.
20.	<i>Capsicum frutescens</i> L	Solanaceae	Red Pepper Tartashi	Bini - isie; Efik/Ibibio– ntokon; Igbo– Ose-oyibo; Ose nukwu; Yoruba– ata-jije;	Fruits and seeds	Cold, fever, dysentery, malaria and gonorrhoea; additives as flavours in many medicines.

21.	<i>Capsicum minimum</i> Roxb	Solanaceace	African pepper,	Bini - ekie; Efik/Ibibio- ntueen; Igbo- Ose; ose mkpe; Yoruba - ata sisebe.	Fruit and seeds	Cold, fever, dysentery, malaria and gonorrhoea
22.	<i>Aframomum melegueta</i> K. schum	Zingiberaceae	Grains of paradise, guinea grains; alligator pepper.	Bini - chin-edo; ehie ado; Igbo - Ose oji; Urhobo - erhie; Yoruba - oburo; ata; ata-ire.	Rhizome, leaves, fruits and seeds.	Worms, small pox, chicken pox, catarrh; congested chest, fractures, hypertension and cholera
23.	<i>Zingiber officinale</i> Rose.	Zingiberaceae	Ginger	Efik/Ibibio - jinja; Igbo - jinja; Yoruba- aje; orin; atale.	Rhizome	Toothache, congested nostrils, cough, colds, influenza and flu, asthma, stomach problems, rheumatism, piles, hepatitis and liver problems.

1. *Dennettia tripetala* Bak.f.

Family: Annonaceae

Common Names (English): Pepper fruit

Local Names: Bini - ako; Ibibio/Efik - nkarika; Igbo - nmimi; Urhobo - Imako; Yoruba - igberi

Parts Used: Leaves, fruits and seeds

Ailments Cured: Cough, fever, enhancing appetite.

Preparation and Treatment: Leaves and fruits are shewed for cough and enhancing appetite. The Igbos eat the fruits and seeds with kolanut (*Cola Spp.*). Decoction of the fresh leaves are mixed with those of Mango leaves (*Mangifera indica*) to treat fever.

2. *Xylopi aethiopica* (Dunal) A. Rich

Family: Annonaceae

Common Names (English): Ethiopian pepper, African pepper.

Local Names: Bini - unien; Ibibio/Efik - atta; Igbo - uda; Urhobo - urheri; Yoruba - eeru.

Parts Used: Stem bark; fruits and seeds; roots.

Ailments Cured: Stomach aches; dysentery; bronchitis; cancer; ulcers; fever and debility; rheumatism; post-partum management and fertility-enhancing; vermifuge

Preparation and Treatment: Fruit extract or decoction of the bark is drunk for the treatment of bronchitis and dysenteric conditions; and also as a medicine for biliousness and febrile pains. The powdered root is used as a dressing for sores and rubbed onto gums for pyorrhoea and in the local treatment of cancer.

Powdered bark is dusted onto ulcers to enhance healing. The decoction of the leaves and roots is used generally as tonic and often mixed with salt to cure constipation.

Extracts of the pungent leaves are used as an emetic, carminative, purgative and revulsive against pains and rheumatism. The powder of the seeds is used to prepare special pepper soup given to lactating mothers. The

fruit extract is also used to aid conception and as a vermifuge for round worms.

3. *Pergularia daemia* (Frosk) Chior.

Family: Asclepiadaceae

Common Names (English): Unknown

Local Names: Igbo - Utazi; Yoruba - teji

Parts Used: Leaves, stem and root bark.

Ailments Cured: Cough, fever, catarrh and diarrhea in infants.

Preparation and Treatment: The water extract of the leaves is used as antihelmintic and expectorant. The stem and root bark extract is taken against fever and diarrhea in infants. The leaves are specially used as a condiment for soup and porridge yam.

4. *Ocimum* Species

Family: Labiateae

About six different species in this genus are commonly used by the people of this region. The species include:

Ocimum basilicum L.

O. Canum Sims

O. gratissimum L.

O. americanum L

O. guineense Schum et. Thonn

O. viride Willd.

Common Names (English): Sweet Basil; Hairy Basil; Tea Bush; Scent Leaf

Local Names: Edo - esewon; Igbo - nchanwu, Urhobo - ufuo-yibo; Yoruba - efinruin-wewe, efinrin-ajase, efinrinpo, efinrin-gidi and efiri-ajija.

Parts Used: Whole plants and leaves.

Ailments Cured: The plant is an anticonvulsant, diaphoretic and carminative. It cures cough, catarrh, cold, fever, chest pains and diarrhea. Others are earache, ringworm, nasal bleeding, anti-spasmodic and relief of pains of the colon.

Preparation and Treatment: Leaves are chopped up and eaten as a febrifuge. Powdered form of the leaves is taken internally for catarrh. A paste of the leaves is applied topically against ringworm and skin diseases. Seed infusion is prepared to treat gonorrhoea, nephritic and urinary infections, diarrhea and chronic dysentery. The warm extract of the leaves is used in instillations for otitis media, sinusitis and in fumigations for cough and headache. The roots of these species together with the leaves of *Jatropha curcas* and fruit of *xylopia aethiopica* is boiled and given to children as a strengthening tonic.

The leaves of these species are usually very aromatic. They are thus used for seasoning and flavouring sauces, salads and soups. The scent of the plant is also used to protect against snakes.

5. *Thymus vulgaris* L

Family: Labiateae

Common Name (English): Thyme

Local Names: Unknown

Parts Used: Leaves and fruits

Ailments Cured: The foliage is used as antiseptic, antihelmintic, expectorant, carminative, diuretic emmenagogic and sedative.

Preparation and Treatment: Thyme leaves and fruits are rich in thymol. The powdered form of the foliage is prepared and used in food for both seasoning and curative purposes.

6. *Tetrapleura tetraptera* Taub.

Family: Leguminosae (Fabaceae)

English: Unknown

Local Names: Bini - Ighimiakia; Efik - edeminang; Etsako - imiminje; Igbo - Oshosho; Ijaw - apapa; Ishan - ighirehimi; Yoruba - aridan.

Parts Used: stem bark and fruit pod.

Ailments Cured: Flatulence, fever, convulsions, bone fractures, rheumatism, gonorrhoea.

Preparation and Treatment: The pod is ground with palm oil and used in the stretching of fractured bones. Aqueous extract of the pod is used as anticonvulsant and molluscicide. A decoction of the pod and the bark is used as emetic and to wash the affected organ in the cure for gonorrhoea. The paste of the pods mixed with the roots of *Citrus lemon*, *Olex subscorpiodes*, *Chenopodium ambrosioides* and the bulb of *Allium ascalonicum* in treatment of rheumatism.

7. *Allium cepa* L.

Family: Liliaceae

Common Name (English): Red Onion

Local Names: Bini - alubarha; Efik/Ibibio - oyim mbakara; Igbo - yabasi; Yoruba - alubosa.

Parts Used: Leaves and bulb

Ailments Cured: Asthma, convulsion, hypotension, ulcers, cough, cold and skin infections.

Preparation and Treatment: Onion bulb serves as a stimulant and expectorant. Generally antimicrobial, it is usually crushed and its juice used against skin infections and insect bites. The roasted onion or its compress is used as poultice for tumors, ulcers, earaches and piles. Juice of onion is mixed with honey in the treatment of asthma, cough, cold convulsion and hypotension. Fresh onion leaves is mostly used to eat roasted meat "suya" as a carminative and to reduce cholesterol level. Onion bulb is mostly used for flavouring and garnishing soup and foods.

8. *Allium sativum* L.

Family: Liliaceae

Common Name (English): Garlic

Local Names: Igbo - ayuu; Yoruba - ayo.

Parts Used: Bulb

Ailments cured: Fevers, coughs, constipation, asthma, nervous disorders, hypertension, ulcers and skin diseases. Highly bacteriostatic, fungicidal and antihelmintic.

Preparation and Treatment: Crushed garlic (soup) is used against microbial infection, asthma cough and respiratory problems. The juice of the bulb is given as eardrops against earaches. As a seasoning and

flavouring agent, garlic is principally taken against fevers and chills. A cold infusion serves as a body wash for infants as protection against chills. The bulb also serves as effective remedy for hypertension, muscular pain, giddiness and sore eyes. It is digestive and carminative and removes pains of the bowels. When powdered with onion it is applied as a dressing on ulcers and skin diseases.

9. *Myristica fragans* Houtt.

Family: Myristicaceae

Common Names (English): Nutmeg; mace

Local Names: Unknown

Parts Used: Seeds

Ailments Cured: Diarrhea, rheumatic pains.

Preparation and Treatment: Powdered seeds or decoction of the seeds are used in the treatment of diarrhea, and as carminative, rubefacient and rheumatism. The powder of the seeds is also added as a flavouring agent to conceal the unpleasant taste or odour of several local herbal preparations.

10. *Piper guineense* Schum & Thonn

Family: Piperaceae

Common Name (English): Climbing black pepper or Benin pepper

Local Names: Bini - ebe-ahinhi akpoke; Efik/Ibibio - etinkene, odusa; Igbo - ozeza; Urhobo - Urie; Yoruba - Iyere, ata-iyere.

Parts Used: Fruits, Leaves

Ailments Cured: Vomiting, worm infestation, tonsillitis, rheumatism and stomach aches.

Preparation and Treatment: Warm extract of the fruits are used as antiemetic and antihelmintic. Ripe fruits together with the seeds of *Parica biglobosa* and root bark of *Rauwolfia vomitoria* are boiled with snail, the soup orally taken to treat rheumatic pains. Powder from the dried fruits mixed with honey acts as carminative and relieves stomach aches. The ground formulation from the fruits of *P. guineense*, *Dioscorea bulbifera*, *Aframomum melegueta* and *Capsicum frutescens* is mixed with aqueous extract of *Citrus aurantifolia* (lime) against tonsillitis. The fruits and leaves are used as spice for preparing soup for post-partum women.

11. *Piper nigrum* L

Family: Piperaceae

Common Names (English): Black pepper; white pepper

Local Names: Unknown.

Parts Used: Fruits and seeds

Ailments Cured: Dyspepsia, diarrhea, cholera, piles, urinary problems, boils, rheumatism, toothaches and headaches.

Preparation and Treatment: The fruits are highly aromatic. They are used for carminative, diuretic, diaphoretic and antiperiodic purposes. Paste made from ground seeds is applied locally against boils, rheumatic pains, headaches and toothache. Powder of the fruits is mixed with honey in the treatment of dyspepsia, debility, diarrhoea, cholera, piles and urinary tract problems. The extracts of the fruits is given as an antidote in arsenic poisoning.

12. *Piper umbellatum* L.

Family: Piperaceae

Common Names (English): Wild pepper

Local Names: Bini - ebe-ahanbi; Igbo - njam nja; Yoruba - ewe-efon; iyawe; Iwere; yawe.

Parts Used: Roots, leaves and fruits.

Ailments Cured: Rheumatism; inflammatory tumors; stomach pains, ascites and anasarea.

Preparation and Treatment: The fruits are used for diuretic and rubefacient purposes, and also against rheumatic pains. Leaves are boiled with local palm kernel oil as a laxative for pregnant women. Leaf infusion is used as a remedy for stomach pains, anasarea and ascites in adults. A decoction of the root in local dry gin (alcohol) is used against inflammatory tumors and rheumatism.

13. *Murraya Koenigii* Spreng.

Family: Rutaceae

Common Names (English): Curry leaf

Local Names: Bini - ebafo

Parts Used: Stem bark, roots and leaves.

Ailments Cured: Diarrhea, dysentery, vomiting, fevers, herpes and bruises, post-partum pains.

Preparation and Treatment: The stem bark and roots are taken as stimulants. The leaves are eaten against diarrhea and dysentery. And infusion of the leaves stops vomiting. A decoction of the leaves mixed with bitter kola (*Garcinia kola*) treats fever. The poultice of the leaves when applied to boils and bruises brings relief. The Bini people in particular use the soup of the leaves with some local spices and crayfish against herpes infections and relieving post-partum pains.

14. *Capsicum* Species.

Family: Solanaceae

Three main species occur and are used in the area. They are:

(a). *Capsicum annuum* L. (Red pepper, chilies)

(b). *Capsicum frutescens* L. (Red pepper; Tatashi)

(c). *Capsicum minimum* Roxb. (African pepper)

Common Names (English): Cayenne; African pepper; guinea pepper; Bir pepper; chilies.

Local Names: Bini - isie; ekie, asie; Efik/Ibibio - ntokon; aman-ntuen; ntueen; Igbo - Ose; Ose-oyibo; Ose etore; Ose nukwu; Ose nwamkpi; ose mkpe; Yoruba - ata-jije; ata-eiye; ata sisebe.

Parts Used: Fruits and seeds

Ailments Cured: Cold, fever, dysentery, malaria and gonorrhoea.

Preparation and Treatment: The fruits and seeds of pepper are highly pungent. They are used as stimulants and enhancing the circulation of blood especially in cold conditions. They also serve as carminatives and rubefacients. Preparations of the fruits are taken against fever and dysentery. Powdered chilies are mixed with palm oil in treating cuts, wounds and dog bites. For the treatment of malaria, the unripe fruits of *C. frutescens* together with the roots of *Securidaca longipedunculata* (violet tree), whole plant of *Allium ascalonicum* seeds of *Aniphylllea* species; old leaves of *Carica papaya* (pawpaw), roots of *Citrullus vulgaris* (cucumber), roots of *Elais guineensis* (oil palm) are powdered, then mixed with hot pap of

Zea mays and taken orally for 3-4 days. For the treatment of gonorrhoea, a mixture of hot pap and powdered mixture of unripe fruits of *C. frutescens*, whole plant of *Allium ascalonicum*, leaves of *Glyphaea lateriflora* and tuber of *Manihot esculenta* are taken in the mornings for at least seven days.

15. *Aframomum melegueta* K. Schum

Family: Zingiberaceae

Common Names (English): Grains of paradise, Guinea grains; Alligator pepper.

Local Names: Bini - ehin-edo; ehie ado; Igbo - Ose oji; Urhobo - erhie; Yoruba - oburo; ata; ata-ire.

Parts Used: Rhizome, leaves, fruits and seeds.

Ailments Cured: Worms, small pox, chicken pox, catarrh; congested chest, fractures, hypertension and cholera

Preparation and Treatment: The fruits and seeds are commonly used as an ingredient of many local herbal preparations.

They are usually used as stimulants, carminatives and in vermifuge especially among the Ijaws. The powdered rhizome with table salt is specially given as vermifuge for round worms. The decoction of the leaves together with the leaves of *Momordica charantia* and *Sorghum arundinaceum* cereal in local dry gin (alcohol) is recommended to be taken one dose daily against cholera. The decoction of the leaves is used for small pox and chicken pox. When the decoction of the leaves is mixed with leaves of lime, lemon grass and mango it is used as remedy for catarrh while the steam from the decoction is inhaled for congested chest.

16. *Zingiber officinale* Rose

Family: Zingiberaceae

Common Names (English): Ginger

Local Names: Efik/Ibibio - jinja; Igbo - jinja; Yoruba - aje; orin; atale.

Parts Used: Rhizome.

Ailments Cured: Toothache, congested nostrils, cough, colds, influenza and flu, asthma, stomach problems, rheumatism, piles, hepatitis and liver problems.

Preparation and Treatment: Raw ginger is often masticated as a stimulant, stomach tonic, relief of congested nostrils and toothaches. Decoction of the rhizome is used as stimulant, carminative, expectorant and rubefacient. It is also used against problems of the digestive systems. The paste made from the rhizome is used in treating infective hepatitis and related liver problems. Ginger tea is commonly taken against coughs, colds and flu.

DISCUSSION

There is ample evidence that increasing numbers of people across various parts of the world depend on traditional herbal remedies for their health care. The local uses of plants and products in health care are even much higher in particularly those areas with little or no access to modern health services (Saeed, *et al.*, 2004). Spices have been extensively used in history for flavouring and seasoning foods, beverages and medicines (Stethberger, *et al.*, 1996). The present studies have however shown that apart from the use of these plants as spices and condiments, they have several other wide applications in the local treatment and management of many diseases. In deed, in many occasions, the study observed that the indigenous people value the plants more for their ethnomedicinal uses than for spicing foods. For instance, ginger is more valued for its

treatment of coughs, asthma, colds and hypertension than as condiment. The use of preparations of *xylopia aethiopica*, *Piper guineense*, *Piper nigrum* and *Murraya Koenigii* in post-partum treatment and restorative soup after childbirth is certainly of more value than as a mere seasoning or flavouring agent. The indigenous peoples of the study area have therefore developed various ways of harvesting, processing and administering preparations of these plants in the cure of the different ailments. Trade and commercial utilization of the plants, though informal, constitute dominant enterprise of the local people in the area.

Uncontrolled exploitation, due to increasing population and its attendance pressure on resources and the new wave of emphasis on natural products is threatening most of the species investigated. In addition to these, the loss of habitats due to pollution and environmental degradation particularly in the study area - Niger Delta which harbours much of Nigeria's flourishing petroleum business further escalates the threats to these species.

The need to inventory, collect, describe and document these plants will certainly form the basis of articulate programmes on their conservation. The increasing emphasis on the need to document customary knowledge and use of plant genetic resources (Cunningham, 1994) provided the basis for the attempt to capture these data especially the local names in this study. This work moreover is part of an on-going effort at the gradual build up of strong databank and knowledge on the medicinal plants of the Niger Delta area of Nigeria. It is the hope that the information will help to reawaken efforts at the development of ethnomedicine and its eventual integration into the formal health care system.

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