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Spices used in Ubulu-Uku community of delta state

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Abstract

A study on plant spices used by the people of Ubulu-Uku, Aniocha South Local Government Area of Delta State was carried out to review the abundance of spices and their application in food preparation. Ethnobotanical information were obtained from ten elderly women who were highly knowledgeable in the use of spices in food preparation. Relevant botanical journals and lectures from the Department of Botany, Delta State University, Abraka were also consulted in the identification of spices collected. A total of twenty two (22) plant materials comprising of fourteen (14) families used as spices were recorded to include Amaryllidaceae (1), Annonaceae (2), Apocynaceae (1), Asteraceae (1), Chrysobalanaceae (2), Euphorbiaceae (1), Fabaceae (4), Gnetaceae (1), Lamiaceae (2), Myristicaceae (1), Piperaceae (1), Rutaceae (1), Solanaceae (1) and Zingiberaceae (3). The plants encountered reviewed various life forms of which trees and shrubs had the highest occurring spices with eight (8) plants while herbs had six (6) plants and climber was least with one (1) plant. Seeds comprised of fourteen (14) species while leaves spices accounted for five (5) plants. Rhizomes spices encountered accounted for two (2) plants while those plants whose stem are used as spices recorded a single plant species. The result of this study shows that the people of Ubulu-Uku in Delta State are blessed with numerous plant spices which are essential in food preparation and preservation due to the fact that majority of these spices are cheap and easily affordable.

Keywords: Spices, ethnobotanical uses, Ubulu-Uku, Delta State

1. Introduction

Spices have remarkable history. They played prominent roles in the civilization of antiquities. Many spices had their origins in the Asiatic tropics [1]. Spices are condiments of plant origin consisting of parts of trees, seeds shrubs and grass which abound in the tropical rainforest and savannah grass land zones. Perhaps the most widely utilized plant species in Nigeria are the spices. These species are the major sources of powder and/or seeds used in cooking and have strong taste and smell [2]. They are often referred to as food accessories or adjuncts because of their ability to stimulate appetite and increase the flow of gastric juice. Some common examples are garlic, ginger, *Piper nigrum* etc. They are used principally to spice foods, drinks and as medication for various ailments [3].

Indigenous spices and herbs in Nigeria are mostly obtained from the wild and little attempt has been made to domesticate and cultivate them despite the fact that they constitute a large proportion of the daily diets of rural dwellers. Although, they are used nutritionally in insignificant quantities, some researchers have argued that they can also contribute to the nutrient content of the food [3]. Studies have been carried out on spices mostly on their flavours and aroma, medicinal values, antinutrients [4] as well as in drinks and beverages and in the production of perfumes [5].

Spices may be derived from any part of plant; leaf (bay), flower bud (cloves), fruit (pigments), bark (cassia), rhizome (turmeric, ginger), root (horse radish), or seed (anise). There are numerable spices in use in different parts of Nigeria. Some are cultivated while other are obtained from the wild. Some world spices include basils (*Ocimum* spp), Peppers (*Capsicum* spp), ginger (*Zingiber* spp), coriander (*Coriandrum* spp), thyme (*Thymus* spp), nutmeg (*Myristica* spp), peppermint (*Mentha* spp), rosemary (*Rosmarinus* spp) and vanilla (*Vanilla* spp) [1] (Green *et al.*, 2010), *Monodora myristica* (Ehuru), *Xylopi aethiopia* (Uda), *Byrosocarpus dinklayer* (Efu), *Gongronema latifolium* (Utazi), *Piper guinnessse* (Uziza), *Ricinus communis* (Ogiri isi), *Pentaclethra macropylla* (Ukpaka), *Ocimum gratissimum* (Nchanwu) among others [6].

Today, there is a growing consciousness about the existence of cheap and nutritious local spices and the need to use them.

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The consciousness arose due to what the nation encounters in importing expensive foreign foods and spices. There is need for Nigerians to learn to use local spices in the preparation of food based on economic and nutritional point of view. Based on the importance of spices, this research was undertaken to review the use of spices by the people of Ubulu-Uku Community of Delta State.

2. Materials and Methods

2.1. Study Area

This study was conducted at Ubulu-Ukwu, in Aniocha South Local Government Area of Delta State, Nigeria. Ubulu-Ukwu is located within Latitude 6°14'1.46"N and longitude 6°26'53.84"E. The elevation above sea level is approximately 164 metres. It has an area of 868 km² and a population of 140,604 at the 2006 census. The major occupations of the citizens are farming (mainly oil palm), clothes weaving and commercial activities.

2.2. Method of Data Collection

Ethnobotanical information were obtained from ten elderly women who were highly knowledgeable in the use of spices in food preparation. Relevant botanical journals and lectures from the Department of Botany, Delta State University, Abraka were also consulted in the identification of spices collected.

2.3. Identification of Plant Spices Specimen

Identification of the collected plant spices specimens for their scientific classification was carried out using Flora of West Tropical Africa [7], Outlines and Pictures of Medicinal plants in Nigeria [8] and Handbook of African Medicinal Plants [9]. The unidentified plant spices collected were correctly identified at the Department of Botany, Delta State University, Abraka.

3. Results

A total of twenty two (22) plant materials used in different forms as spices were recorded during the course of the study (Table 1). The plant cut across different families as well as life forms/habit in which they exist in nature. From the twenty two plants species encountered, fourteen (14) families were recorded which include Amaryllidaceae (1), Annonaceae (2), Apocynaceae (1), Asteraceae (1), Chrysobalanaceae (2), Euphorbiaceae (1), Fabaceae (4), Gnetaceae (1), Lamiaceae (2), Myristicaceae (1), Piperaceae (1), Rutaceae (1), Solanaceae (1) and Zingiberaceae (3). The plants obtained and their scientific names are presented in Table 1. The table also shows the common and local names of the spices as used by the people of Ubulu-Uku community of Delta State. The results shows that majority of the plants were under the Fabaceae family which accounted for the highest spices (four species of plant).

Table 1: The scientific, family, common and local names of plants used as spices by the people of Ubulu-Uku Community of Delta State

S/N	Scientific Name	Family	Common Names	Local Names
1.	<i>Zingiber officinale</i> Roscoe	Zingiberaceae	Ginger	Ginger
2.	<i>Myristica fragrans</i> Houtt	Myristicaceae	Nutmeg	Nutmeg
3.	<i>Capsicum annum</i> L.	Solanaceae	Chili pepper	Ose
4.	<i>Vernonia amygdalina</i> Delile	Asteraceae	Bitter leaf	Onugbo
5.	<i>Ocimum gratissimum</i> L.	Lamiaceae	Scent leaf	Arurunta
6.	<i>Thymus vulgaris</i> L.	Lamiaceae	Thyme	Thyme
7.	<i>Aframomum melegueta</i> K. Schum	Zingiberaceae	Alligator pepper	Ose-oji
8.	<i>Gongronema latifolium</i> Benth	Apocynaceae	Utazi	Utazi
9.	<i>Parkia biglobosa</i> Benth	Fabaceae	African locust bean	Okpei
10.	<i>Gnetum africanum</i> Welw	Gnetaceae	Wild spinach	Okazi
11.	<i>Piper guineense</i> Schumach	Piperaceae	Guinea pepper	Uziza
12.	<i>Xylopia aethiopica</i> Dunal	Annonaceae	Grain of Selim	Uda
13.	<i>Pentaclethra macrophylla</i> Benth	Fabaceae	Oil bean	Ugba
14.	<i>Ricinus communis</i> L.	Euphorbiaceae	Castor oil	Ogiri
15.	<i>Monodora myristica</i> Gaertn	Annonaceae	African nutmeg	Ehuru
16.	<i>Tetrapleura tetraptera</i> Taub	Fabaceae	-	Oshiosho
17.	<i>Allium sativum</i> L.	Amaryllidaceae	Garlic	Ayuu
18.	<i>Murraya koenigii</i> (L.) Sprengel	Rutaceae	Curry leaf	-
19.	<i>Glycyrrhiza glabra</i> L.	Fabaceae	Banga wood	Mbu-aku
20.	<i>Chrysobalanus icaco</i> L.	Chrysobalanaceae	Paradise plum	Omilo
21.	<i>Parinari excels</i> Sab.	Chrysobalanaceae	Guinea plum	Agbafilo
22.	<i>Aframomum subsericeum</i> Oliv.	Zingiberaceae		ataiko

The plants used as spices by the people of Ubulu-Uku, Delta State cut across different life forms/habits including climber, herbs, shrubs and trees. Table 2 shows the various life forms of which trees and shrubs had the highest occurring spices with eight (8) plants while herbs had six (6) plant and climber was least with one (1) plant respectively. The results also showed that majority of the plants collected in the study

comprised of seeds spices which are either obtained directly from the plants or are gotten from enclosed pods. A total of fourteen (14) spices encountered were seeds while leaves spices accounted for five (5) plants. Rhizomes spices collected accounted for two (2) plants while those plants whose stem are used as spices accounted for a single plant species.

Table 2: Classification of spices based on life form / habit

S/N	Scientific Name	Life form/Habit
1.	<i>Gongronema latifolium</i>	Climber
2.	<i>Zingiber officinale</i>	Herb
3.	<i>Aframomum melegueta</i>	Herb
4.	<i>Gnetum africanum</i>	Herb
5.	<i>Allium sativum</i>	Herb
6.	<i>Glycyrrhiza glabra</i>	Herb
7.	<i>Aframomum subsericeum</i>	Herb
8.	<i>Capsicum annuum</i>	Shrub
9.	<i>Vernonia amygdalina</i>	Shrub
10.	<i>Ocimum gratissimum</i>	Shrub
11.	<i>Thymus vulgaris</i>	Shrub
12.	<i>Piper guineense</i>	Shrub
13.	<i>Ricinus communis</i>	Shrub
14.	<i>Chrysobalanus icaco</i>	Shrub
15.	<i>Myristica fragrans</i>	Tree
16.	<i>Parkia biglobosa</i>	Tree
17.	<i>Xylopi aethiopica</i>	Tree
18.	<i>Pentaclethra macrophylla</i>	Tree
19.	<i>Monodora myristica</i>	Tree
20.	<i>Tetrapleura tetraptera</i>	Tree
21.	<i>Murraya koenigii</i>	Tree
22.	<i>Parinari excels</i>	Tree

4. Discussion

The results obtained from the present study showed that there were numerous spices in use, in the studied area. Some of these spices are obtained from the local environment while others are cultivated. Today, there is a growing consciousness about the existence of cheap and nutritious local spices and the need to use them. The consciousness arose due to what the nation encounters in importing expensive foreign foods and spices [5]. The species of plants used as spices in the study area have been reported by Ogbonna and Ogbonna [5] who recorded spices used for food preparation includes; *Gongronema latifolium* (Utazi), *Xylopi aethiopica* (Uda), *Piper guineense* (Uziza), *Pentaclethra macrophylla* (Ukpaka), and *Monodora myristica* (Ehuru). Others were *Ricinus communis* (Ogiri isi), *Ogiri-okpei*, *Byrosocarpus dinklayer* (Efu), *Ocimum gratissimum* (Nchanwu), and pepper. Similarly, Adepoju and Oluremi [10] reported the commonly consumed indigenous spices in Nigeria to include *Allium Ascalonicum* (Shallot), *Piper guineense* (Black pepper), *Aframomum melegueta* (Alligator pepper), *Zingiber officinale* (Ginger), *Ocimum basilicum* (Sweet basil), *Allium sativum* (Garlic), and *Eugenia caryophyllata* (Clove). Spices and their herbs are used generally to prepare “pepper soups” which may be taken hot or cold especially during the cold and raining season, and are particularly very important in the diets of post-partum women as an aid to the contraction of the uterus [11].

Majority of these spices are applied in different forms. The fruits and leaves of *Piper guineense* (‘Iyere’ in Yoruba and ‘Uziza’ in Igbo languages [12] are used as spices for preparing soup for post-partum women and in treatment of vomiting, worm infestation, rheumatism and stomachache. Raw *Zingiber officinale* is often masticated as a stimulant, stomach tonic, relief of congested nostrils and toothaches. In Orumba North, Ogiri -isi is frequently used to prepare bitter-leave soup as well as African salad [13].

Spices are among the most versatile and widely used ingredients in food processing. As well as their traditional role in food flavouring and colouring, they are increasingly used as natural preservatives in active packaging [14, 15]. Spices have played an important role in the history of civilization,

exploration and, commerce as these had a universal acceptance as condiments and flavours in human diet as well as in treatment of ailments. A notable use of spices and herbs in very early times were in medicine in the making of holy oils and unguents, and as aphrodisiacs [16].

5. Conclusion

The result of this study shows that the people of Ubulu-Uku in Delta State are blessed with numerous plant spices which are essential in food preparation and preservation due to the fact that majority of these spices are cheap and easily affordable. In view of this finding, measures aim to stimulate the regular use and availability of the spices through appropriate methods all year round.

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