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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), *Xylopia aethiopica* (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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7. References

- Green B, Nworgu FC, Obazee MN. Spices and food condiments in Niger-Delta region of Nigeria. African Journal of Biotechnology. 2012; 11(79):14468-144573.
- Schippers RR. African indigenous vegetables: an overview of the cultivated species. 1st ed. CTA DFID and NRI. Greenwich London, 2000, 66-147.
- Ogunka-Nnoka CU, Jaja G. Micronutrient contents of under-utilized spices common in Nigeria. Global Journal of Science Frontier Research Chemistry. 2012; 12(4):12-16.
- Nwachukwu N, Ukoha AI. Proximate composition and anti-nutritional factors of some Nigeria spices. Scientia Africana. 2006; 5(2):99-104.
- Ogunka-Nnoka CU, Mepba HD. Proximate composition and anti-nutrient contents of some common spices in Nigeria. The Open Food Science Journal. 2008; 2:62-62.
- Ogbonna RA, Ogbonna MC. Socio-economic implications of utilization of indigenous spices in Orumba North, Anambra State, Nigeria. Journal of Agriculture and Social Research. 2010; 10(1):97-103.
- Hutchinson J, Dalziel JM. Flora of West Tropical Africa Vol. I, Part I. Crown Agents London, 1954.
- Odugbemi T. A text book of medicinal plants from Nigeria. University of Lagos Press, Nigeria, 2008, 542-612.
- Iwu MM. Handbook of African medicinal plants. CRC Press, London, 1993, 183-184.
- Adepoju OOA, Oluremi OTK. Evaluation of micronutrient potentials of seven commonly consumed indigenous spices from Nigeria. American Journal of Food and Nutrition. 2013; 3(3):122-126.
- Achinewu SC, Aniena MI, Obomanu FG. Studies on spices of food value in the South eastern states of Nigeria 1: Antioxidants Properties. Journal of African Medicinal Plants. 1995; 18:135-139.
- Ndukwu BC, Ben-Nwadibia NB. Ethno medicinal aspects of plants used as spices and condiments in the Niger Delta area of Nigeria. Journal of African Medicinal Plants, 2005, 25.
- Gobin AML, Uguru MI, Deckers J. Oil Crops. Castor. In: R.H. Raemaekers R.H. Crop Production in Tropical

- Africa. Belgium, 2001, 725-733.
14. Seyidim AC, Sarikus G. Antimicrobial activity of whey protein based edible films incorporated with oregano, Rosemary and Garlic Essential Oils. *Food Research International*. 2006; 39:639-64.
 15. Mubeen H, Naeem I, Taskeen A, Saddiqe Z. Investigations of heavy metals in commercial spices brands. *New York Science Journal*. 2009; 2(5):155-200.
 16. Hemphill I. *Spice notes-A cook's compendium of herbs and spices*. Pan McMillan, Sydney, 2000.