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## RESEARCH ARTICLE

### AN INVENTORY OF EDIBLE WILD FRUITS CONSUMED IN EDO AND DELTA STATES OF NIGERIA

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#### ABSTRACT

In Edo and Delta States of Nigeria, many edible wild fruits are available in the bushes. Many of them are threatened due to urbanisation hence, this document for unborn generations. Trips were made to Ekpoma, Iruokpen, Otuo, Ewu, Uromi, Ubijaja, Auchi and Benin City markets in Edo State to obtain first-hand information on the wild edible fruits sold and consumed by the natives in those communities. Also, markets in Ogume, Utagba Ogbe, Utagba Uno, Obiaruku, Abbi, Orerokpe, Warri, Sapele, Asaba and Agbor in Delta State were sampled to know the wild edible fruits sold in those markets. In both states, the trips were made in dry and rainy seasons as the fruits were not available throughout the year. Besides sampling the markets in towns and cities, the assistance of three male farmers in the villages, towns and outskirts of the cities were solicited in identifying edible wild fruits in their localities. We paid them for their services. The fruits were consumed in our presence by the natives and the authors equally ate the fruits to confirm they were edible and harmless. In all, twenty nine edible wild fruits belonging to twenty-three families were documented. Time of the year in which the fruits were available, their habits and indigenous names in Bini, Esan and Ukwuani languages were documented for posterity.

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## INTRODUCTION

A fruit is a part of a flowering plant that is derived from specific tissues of the flower, one or more ovaries, in some cases accessory tissues. Fruits are the means by which most plants disseminate seeds. Many of them bear edible fruits; in particular, some are propagated with the movements of humans and animals in a symbiotic relationship as a means for seed dispersal and nutrition respectively. In fact, humans and many animals have become dependent on fruits as source of food (Lewis, 2002). Domesticated fruits account for a substantial fraction of the world's agricultural output in the developed world, and some (such as apple – *Malus pumila* Mill and pomegranate – *Punicagranatus* L.) have acquired extensive cultural and symbolic meanings. In botanical sense of 'fruits' includes many structures that are not commonly called fruits such as bean pods, corn kernels and wheat grains (Schlegel 2003 and Mauseth, 2003). The section of a fungus that produces spores is also called a fruiting body. In the culinary sense of the word, a fruit is usually any sweet tasting plant product, especially those associated with seeds.

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Many common terms for seeds and fruits do not correspond to botanical classifications. In botany, seeds are ripened ovules while fruits are ripened ovaries or carpels that contain the seeds and nut is a type of fruit and not a seed (Harold, 2004). Edo and Delta States of Nigeria are situated within the rain forest. One of the main features of tropical rain forests is their extreme species richness which has impressed scientists ever since the earliest explorations (Whitmore, 1998). The way such very large numbers of species have evolved and are packed together has been the driving force for endless speculations, constrained to varying degrees by observation, and commonly involving massive extrapolation (Whitmore, 1998). Many of these trees in the forests produce edible fruits consumed by natives but apart from *Thaumatococcus danielli* and *Elaeis guineensis* none so far has been domesticated to enhance large scale cultivation and production. *T. danielli* is cultivated mainly for its leaves but its fruits are very edible while the fruits of *E. guineensis* are utilised in many ways. Most of the cultivated fruit trees and shrubs in Edo and Delta States are exotic. Population explosion has necessitated increased demand for land for agriculture, road construction, building of houses, industries and markets thereby encroaching on the virgin and secondary forests inhabited by these fruits. Their existence is therefore threatened.

This work is aimed at documenting the indigenous but wild edible fruits consumed in Edo and Delta States of Nigeria for posterity.

## MATERIALS AND METHODS

Several trips were made to Ekpoma, Iruokpen, Otuo, Ewu, Uromi, Ubiaja, Auchu and Benin City markets in Edo State to obtain first hand information on the wild edible fruits sold and consumed by natives in those communities. Also, markets in Ogume, Utagba Ogbe, Utagba Uno, Obiaruku, Abbi, Orerokpe, Warri, Sapele, Asaba and Agbor in Delta State were visited to know the wild edible fruits sold there. In both states, the trips were made in dry and rainy seasons as the fruits were not available throughout the year.

Besides trips to the markets, a plea was made to three male farmers in each community to assist us in identifying plants that produce edible fruits in the wild. They were paid for their services; the fruits were confirmed to be edible by asking other inhabitants in the communities. The fruits were consumed by the natives in our presence. The authors also consumed all the fruits listed to confirm they were edible and harmless. Their families were carefully recorded, time of the year in which they were available and habits.

Indigenous names of the plants as provided by the natives were documented in three major languages namely – Bini, Esan and Ukwani.

## RESULTS

In Edo and Delta States of Nigeria, twenty nine (29) edible wild fruits (Table 1) were documented. Fifty eight percent (58%) of the plants were trees, shrubs (20.7%), herbs 17.4% and one woody climber *Landolphiaowarensis* (3.4%). Among the plants, attempts had been made at domesticating few of them such as *Chrysophyllumalbidum*, *Elaeisguineensis*, *Garcinia cola*, *Irvingiagabonensis*, *Klainedoxagabonensis* and *Thaumatococcusdanielli*. In Edo and Delta States, *E. guineensis* and *T. danielli* were grown in plantations while the other four plants though grown in the wild were also planted as shade and fruit trees on compounds by some natives. *Mondiawhitei* was neither seen in the markets in Delta State nor in the wild.

## DISCUSSION

Peoples of Edo and Delta States of Nigeria were known for consuming wild fruits either raw, cooked or processed into different products many years ago.

**Table 1. Wild Fruits consumed in Edo and Delta States of Nigeria**

Name of Plants	Family	Habit	Fruit Availability (Months)	Indigenous name		
				Bini	Esan	Ukwani
<i>Aframomum granum-paradisi</i> K.Schum	Zingiberaceae	Herb	August-November	<i>Uirema</i>	<i>Uriema</i>	<i>Olima</i>
<i>Bractystegiaeurycocoma</i> Harms	Boraginaceae	Tree	February-March	<i>Okwen</i>	<i>Eku</i>	<i>Achi</i>
<i>Carpobrotum</i> G.Don	Polygalaceae	Shrub	November-February	<i>Aswen</i>	<i>Eran-owelle</i>	<i>Ezikaika</i>
<i>Chrysophyllumalbidum</i> G.Don	Sapotaceae	Tree	January-March	<i>Otien</i>	<i>Otien</i>	<i>Udala</i>
<i>Cola caricifolia</i> K.Schum	Sterculiaceae	Shrub	February-March	<i>Evbe-emen, evboha</i>	<i>Same as Bini</i>	<i>Akwikwili</i>
<i>Cola millenii</i> K.Schum	Sterculiaceae	Shrub	January-March	-	<i>Evbe-osa</i>	<i>Ojoozo</i>
<i>Daliumguineense</i> Wild	Caesalpiniaceae	Tree	January-March	<i>Omugen</i>	<i>Ugen, Ihionmen</i>	<i>Oche-akpa</i>
<i>Diospyrosespiliformis</i> Hochst. ex A.D.C.	Ebenaceae	Tree	August-October	<i>Ebony</i>	<i>Same as Bini</i>	<i>Ozhie</i>
<i>Discreophyllumcumminsii</i> (Stapf.) J.Dicls	Menispermaceae	Herb	September-November	<i>Iri-ososo</i>	<i>Ulenlen</i>	<i>Asosobeshi</i>
<i>Dissotiserecta</i> (Guill&Perr) Dandy	Melastomatoceae	Shrub	June-September	<i>Ebafo-nokhua</i>	<i>Same as Bini</i>	<i>Ikeebuba</i>
<i>Elaeisguineensis</i> Jacq	Areaceae	Tree	All year round	<i>Ogieudin</i>	<i>Udin</i>	<i>Ekwu</i>
<i>Garcinia kola</i> Heckel	Guttiferae	Tree	May-August	<i>Edun</i>	<i>Edun</i>	<i>Akinu</i>
<i>Irvingiagabonensis</i> (Aubry-Lecomte ex O'Rork) Baill	Irvingiaceae	Tree	June-August	<i>Ogwe</i>	<i>Ogwi</i>	<i>Egbonougili</i>
<i>Klainedoxagabonensis</i> Pierre ex Engl	Irvingiaceae	Tree	June-July	<i>Oguegodin, Ighozo</i>	<i>Ohiele</i>	<i>Egbonoukpo</i>
<i>Landolphiaowarensis</i> P. Beauv.	Apocynaceae	Woody climber	February-April	<i>Ubo-miogbon</i>	<i>Kpokpoho</i>	<i>Akuali; Ekaikpo</i>
<i>Maesobotryabarteri</i> (Baill.) Hutch	Euphorbiaceae	Tree	February-April	<i>Orhurhu</i>	<i>Same as Bini</i>	<i>Osunsu</i>
<i>Mondiawhitei</i> (Hook.F.) Skeels	Periphocaeae	Herbaceous climber	August-September	<i>Iri-osaretin</i>	<i>Ukpokuma</i>	<i>Not in Delta State</i>
<i>Monodoramyristica</i> (Gaertn.) Dunal	Annonaceae	Tree	August-November	<i>Ikposa; Ebebo-yoba</i>	<i>Same in Bini</i>	<i>Uwoi</i>
<i>Myristicafragrans</i> Hoult	Myristicaceae	Tree	October-December	-	-	<i>Uwoi</i>
<i>Napoleonavogelii</i> Hook &Plandi	Lecythidaceae	Shrub	May-August	<i>Ukpakon-orisa; Ukpagberagi</i>	<i>Same as Bini</i>	<i>Akpazule</i>
<i>Pentaclethramacrophylla</i> Bth.	Mimosaceae	Tree	February-April	<i>Okpagma</i>	<i>Akpagma</i>	<i>Ugba</i>
<i>Piperaceaguineense</i> Schum. & Thonn	Piperaceae	Climber	June-August	<i>Usira</i>	<i>Usira</i>	<i>Uziza</i>
<i>Pogaaleosa</i> Pierre	Rhizophoraceae	Tree	July-September	<i>Ivine-brazi</i>	<i>Same as Bini</i>	<i>Ozua</i>
<i>Solanumanomalum</i>	Solanaceae	Shrub	All year round	<i>Italue, Itehie, Itekhue</i>	<i>Izehe</i>	<i>Enunu</i>
<i>Spondiasmombin</i> L.	Anacardiaceae	Tree	July-August	<i>Okhighan</i>	<i>Ogheghe</i>	<i>Ugomugo; Ishikele</i>
<i>Thaumatococcusdanielli</i> Bth	Maranthaceae	Herb	June-August	<i>Ebe-eba</i>	<i>Ebewa</i>	<i>Ute</i>
<i>Treculia Africana</i> Decne	Moraceae	Tree	September-November	<i>Ize, Izenogan, Izenagan</i>	<i>Same as Bini</i>	<i>Ukwa</i>
<i>Vitexdoniana</i> Sweet	Verbenaceae	Tree	March	<i>Ovion-Aghalokpe, Oriri, olili</i>	<i>Olili</i>	<i>Nwunyeazhizhili</i>
<i>Xylopiaaethropica</i> (Dunal) A. Rich.	Annonaceae	Tree	October-March	<i>Unien</i>	<i>Unien</i>	<i>Uda</i>

Both states are located within the rain forest belt known for high species diversity. The fruits / seeds were consumed in different ways: *Aframomum granum – paradisi*, *Monodoramyristica*, *Piper guineense* and *Xylopiiaethiopica* were used as spices while seeds of *Bractystegiaeurycoma*, *Irvingiagaboneensis*, *Klainedoxagabonensis* were used as soup thickeners. The fruits of *Carpolobialutea*, *Discreophyllumcumminsii*, *Maesobotryabarteri*, *Spondiamombin* were consumed by washing and gently crushing them in the mouth to obtain their juice. Others not mentioned were consumed in different ways. Today, large expanse of fallow and secondary forests had been cleared for farming leading to the destruction of many wild edible fruit-bearing trees and shrubs. A practice in no distant time, would lead to the extinction of these economic trees and shrubs. The threat emanated from dramatic increase in human population especially in the tropics and subtropics where the demographic transition to small families typical of industrialised communities is only now patchily beginning to take place (Whitmore, 1998). The impact of all these people had been exacerbated by greater demands per person on the environment. Tropical rain forests remained one of the last great forest frontiers to be rolled back by humans (Aiken and Leigh, 1992). Presently, the fruits are still available in Edo and Delta States of Nigeria but not as abundant as they used to be. Consequently, the prices of the wild fruits had soared due to habitat destruction and increased human demand.

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