

## **EDIBLE MUSHROOMS IN SOUTH-WEST NIGERIA**

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Edible Mushrooms are known to be a source of protein, minerals, vitamins, and are also said to contain other health promoting substances. They have been prized as a delicacy for more than 2000 years in China [Quimio *et al* 1990]. A few species are eaten for their hallucinogenic effects in North America and Mexico [Nicholson, 1989]. In Nigeria, peasants value mushrooms as a good substitute for meat and appreciate them for the taste.

In Nigeria, several edible mushrooms have been identified in various communities. These have been found growing in several habitats including the forest floor, around termite hills, on dead and living trees and waste dumps [sawdust, oil palm refuse etc.] during the rainy season.

The removal of the forests in which mushrooms thrive has gradually led to the near extinction of this valuable non-timber forest resource. Several types were often seen in the past during forest surveys conducted by the staff of the pathology division, FRIN, but recently a lot of such forests have been cleared and replaced by houses and other infrastructures. Local markets in the past also had a lot of mushrooms for sale but due to the decreasing number collected, few are now available.

This study was aimed at finding out from those in rural communities and market women those mushrooms they usually eat, their source of collection, preservation methods, time of collection, and their interest in selling/eating them if they are made available through artificial cultivation. It was also aimed at providing photographs and collections of edible mushrooms for those who are not familiar with them.

This attempt will hopefully reduce cases of death or ailments associated with mushroom poisoning due to improper identification of edible mushrooms. The collection will also serve as reference material for those wishing to identify collected edible mushrooms. Some of the collected mushrooms will also be used to commence research geared at cultivation of mushrooms outside the forest or farm environment.

### **Materials and methods**

Field trips were undertaken to several locations in South-West Nigeria to collect and characterize edible mushrooms. Areas visited included: Omi-Adio, Olodo, Olokemeji, Onigambari, Alomaja, University of Ibadan Botanical and Zoological gardens [all in Ibadan environs] and Gbongan, Majeroku village, Ife and Ife-Iwara in Ife environs. [Fig.1]

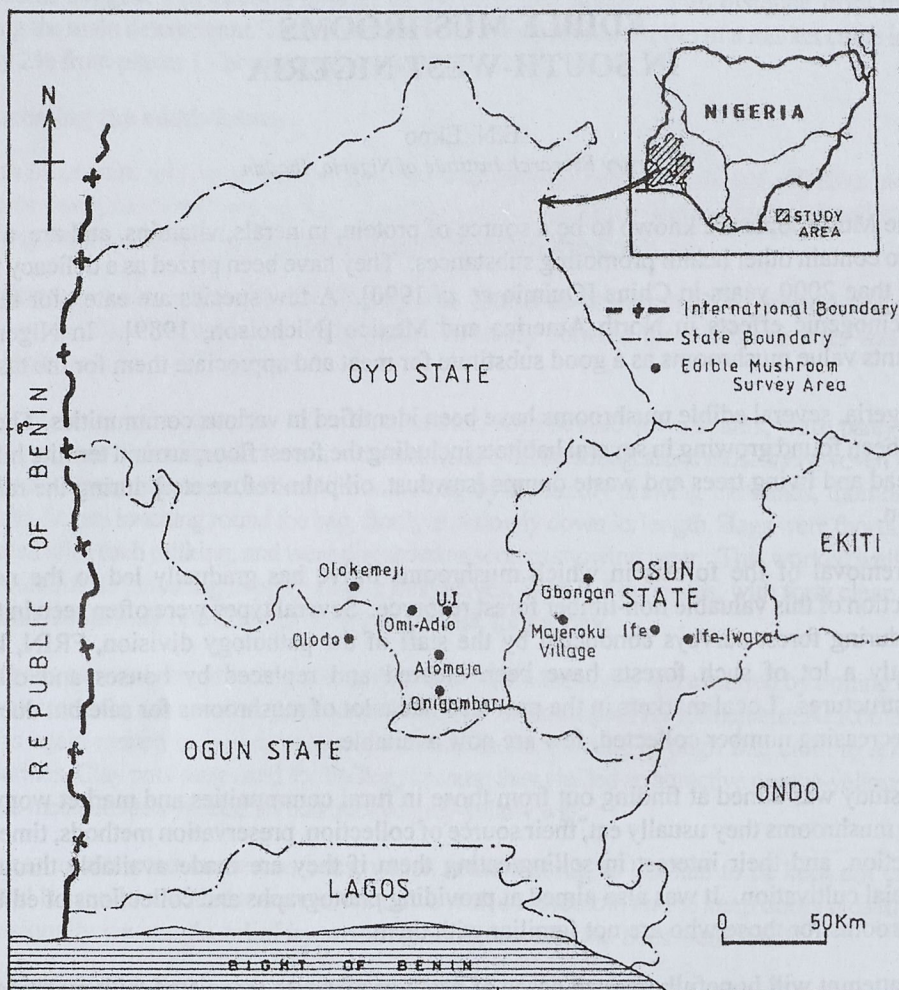


Fig. 1. Locations Used for Edible Mushroom Survey, in Oyo Osun and Ogun State

Structured questionnaires were administered, with oral interviews for information on:

- Biodiversity of edible mushrooms
- Seasonal occurrence
- Acceptability in the diet of the people
- Collection/production pattern
- Utilization pattern
- Handling and preservation
- Market situation, and
- Possible acceptance if cultivated

Table 1: INFORMATION GATHERED FROM THE SURVEY

Location	*Yoruba names of Edible Mushrooms	Best time for collection	Mode of use	Place of collection	Method of preservation	Medical use
[1] Omi-Adio	Olu-Ogogo Aburokoro	Sept/Oct	Meat alternative	Farm, market	Washing, salting, and drying	
	Aburoro Esusu					
[2] Oledo	Olu-okiti Oluogogo Oluewe Aburokoro Akatarapa Olusheshe Esusu Oludobe Oluoyoboro Alapo Ekeikun	Sept.	Meat alternative for food	Farm, market	Drying	
[3] Olokemeji Oluaraba	Ologogo Olo-araba Olu-okiti Olushishi Olukarapa Oluaburokoru	Late August/Sept.	Meat alternative	Farm		
[4] Gbongan	Olu-eweran Olubeje Oludobolase Olu-ekanku Olu-eyin, Olu-oran, Olu-ogogo	Raining season	Soup thickening Meat alternative	Farm; Market	Salting and Drying.	
[5] Majeroku village		Sept/Oct				
[6] Ife [a] Ife	Olu-araba or	Raining season	Eaten in soup	Saw dust,	Drying	Medi- cinal
East Local Governme nt	Osu-araba; Olu-awo; Olu-ogogo; Olu- oran; Olu- takele; Owu- Olu		Meat alternative	Cocoa farm, rotten wood		To avert fear in babies.

[b] Ife-Iwara	Olu-ehé; Olu-takale, Olu-awo; Olu-eha; Olu-agbado.	Raining season	Soup additive	Cocoa plantation, farm		
[7] Alomaja	Olu-araba; Olu-igi; Olu-ewe; Olu-ran; Olu-ogogo; Olu-Takete; Olu-beje	Raining season	Cooked in soup	Saw dust	Drying	
[8] Onigambari	Olu-araba; Kpekperu; Takele; Dobulase; Olu-beje; Olu-oran; Ese-epe	Raining season	Cooked in soup	Farm, Forest		
[9] University of Ibadan	Lentinus squarrosulus Chlorophyllum Molybdites Termitomyces Schizophyllum Commune	Rainy season	Cooked in soup	Botanical Garden. Attached to trees in the environment.		

\* The names were provided through oral discussion with people in rural communities



Plate 1: *Lentinus squarrosulus*

## Results

Questionnaires completed by the people and discussions with them in different areas visited indicated that various types of mushrooms are eaten in the different localities. [Table 1]



Plate 2: *Termitomyces* Sp.

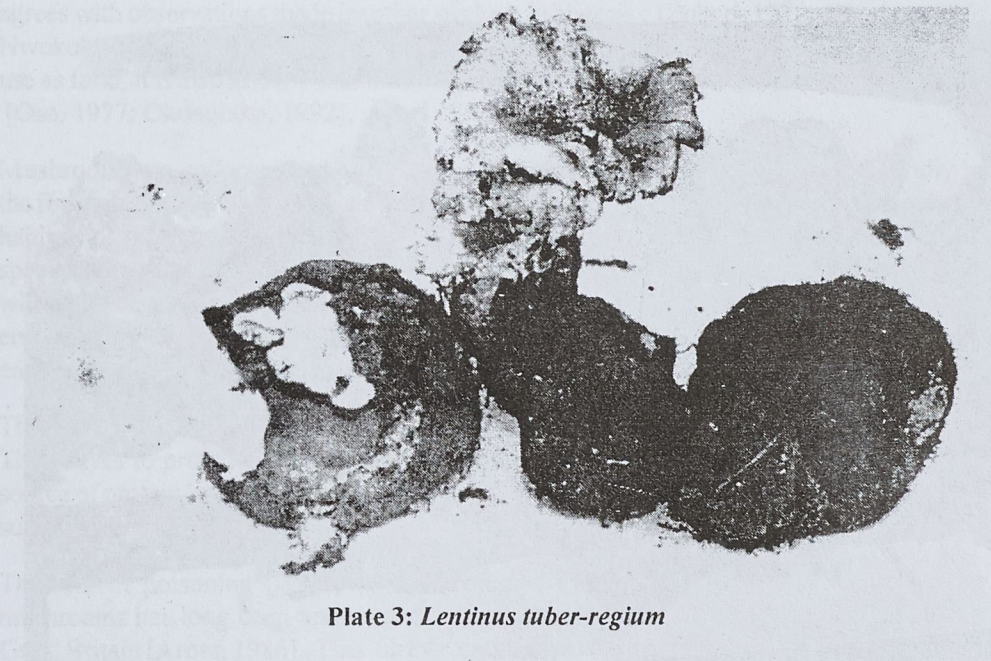


Plate 3: *Lentinus tuber-regium*

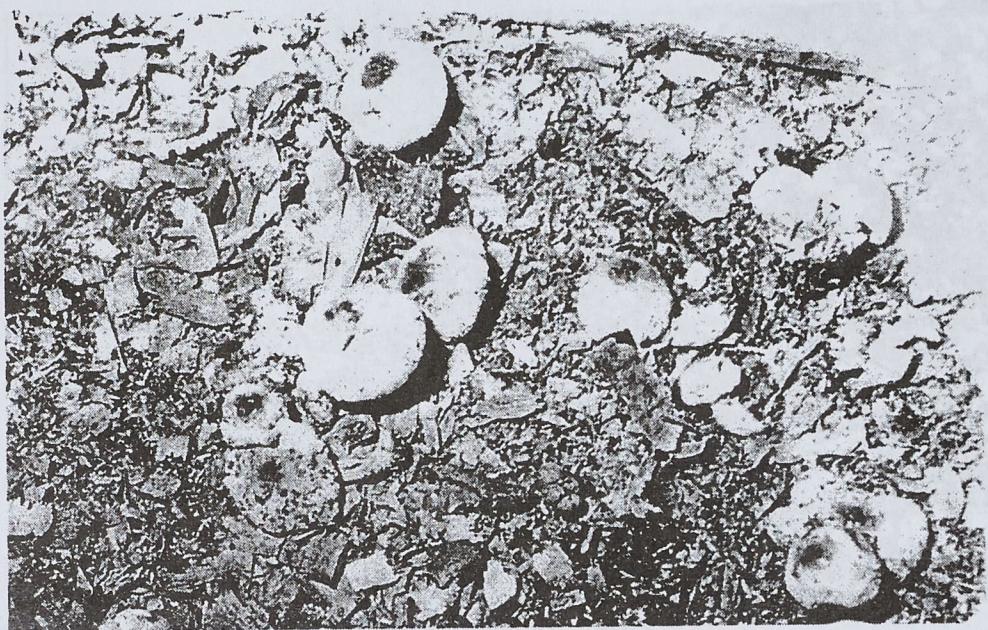


Plate 4: *Volvariella esculenta*

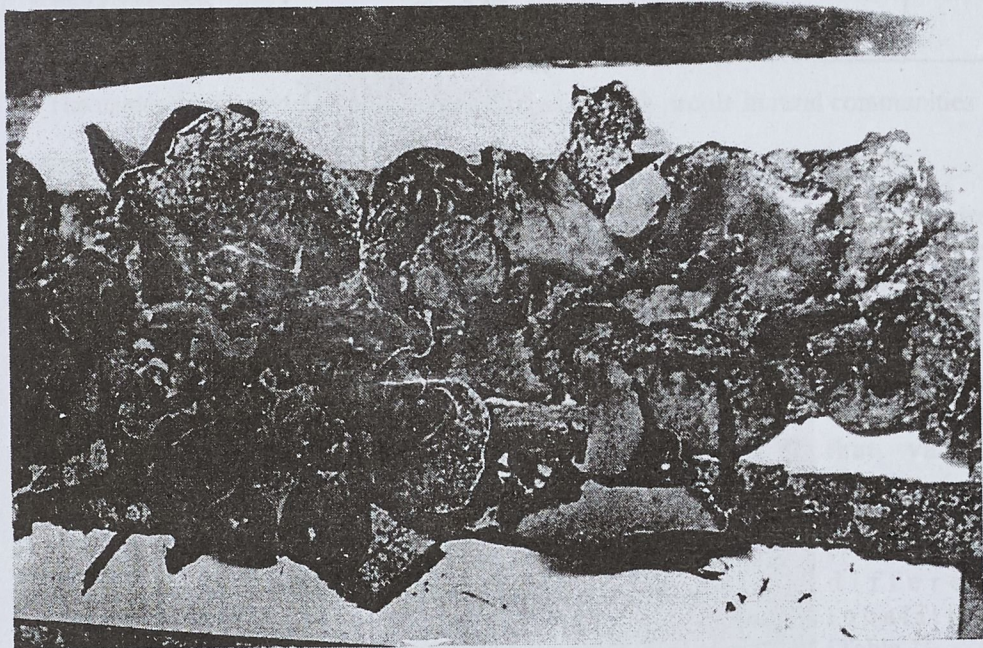


Plate 5: *Auricularia auricula*

Available edible mushrooms collected from these areas include: *Lentinus squarrosulus*, *Termitomyces* species, *Lentinus tuber-regium*, *Volvariella esculenta*, *Auricularia Auricula*, *Chlorophyllum molybdites*, *Schizophyllum commune* (plates 1-5).

Results of the survey showed that 94% of the respondents eat mushrooms while 5% do not. Those who do not stated that they have never eaten mushrooms in their homes due to personal decision or fear of poisoning. The survey also showed that 94% of those who eat mushrooms consume them as a meat alternative and 5.9% as a soup flavouring. Collection was mainly from the farm for those in rural communities like Olokemeji, Omi-Adio, and Onigambari while traders at Gbongan and Ife markets purchase theirs from markets and farmers. Those in the sawmills like Alomaja collect theirs from sawdust heaps.

The best time for collection established from the survey is during the heavy rains, preferably late August-October. Most of the collected mushrooms are eaten fresh while some tough varieties are washed, salted and dried for preservation. All the respondents were unaware of any cultivation methods but agreed that there would be a ready market if mushrooms are cultivated. There was one report in Ife of the use of mushrooms for medicinal purposes to avert fear in infants.

#### DISCUSSION

The results show that mushrooms are eaten in the various zones visited in the study. This agrees with observations made by other workers in Nigeria. [Zoberi, 1972; Okigbo, 1986; Nwokolo, 1987; Ene-Obong and Carnovale, 1992; Adewusi *et al* 1993]. In addition to their use as food, it is also known that mushrooms are used for medicinal and cultural purposes [Oso, 1977; Okwujiako, 1992].

Mushrooms are collected and eaten during the rainy season when they occur naturally in the forest, farmlands and grasslands. Since most of the forest is being destroyed, the natural habitats of these mushrooms are fast disappearing with the possible extinction of many species. There is therefore an urgent need to develop cultivation of these mushrooms which will enhance nutrition for all and provide income-generating activities for those lacking employment and in rural areas. Forest establishment and conservation should also be encouraged so that human beings can enjoy all the products which exist within the forest.

The survey showed that many of those eating mushrooms use them as a meat alternative. This serves to provide a cheap source of protein as mushrooms are known to be a good source of protein, minerals and vitamins and are also said to contain other health promoting substances [Quimio *et al.*, 1990].

The fear of poisoning [*fungophobia*] expressed by some as the reason for not eating mushrooms has long been known and was also reported not only in America but also in Great Britain [Arora, 1986]. This further emphasises the need for the cultivation of known

species to prevent the collection of poisonous species. The keen interest expressed by the respondents in possible cultivation and the availability of buyers buttress the need to hasten research and the production of mushrooms in Nigeria. They will provide food, employment and revenue for the country. There is also an urgent need to set up strategies that will help to conserve the numerous resources within the forest environment.

It is possible that some mushrooms with different Yoruba names in different communities in this study may actually be the same species. Further research will be done to confirm this and also to make collections that will establish the scientific names of all the species mentioned in the course of the study.

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