



Utilization of Wild Edible Mushrooms for Rural Livelihood in Zaria and its Environs

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Abstract: A survey was carried out in some rural communities of Zaria and its environs and mushrooms were collected from the wild during the rains (July-August). The edible mushrooms collected were identified with the help of mushroom guides and some mushroom eaters living in those localities. Information was obtained from consumers, traders, other collectors/hunters and cultivators on their income generation; consumption and other uses of the collected Mushrooms to determine the improvement of the rural livelihood. Mushrooms are sources of food, income and medicinal values. The age range for consumers of edible mushrooms in Zaria and its environs increase with age. This is basically due to lack of adequate knowledge about edible mushrooms. It also gave priority to individuals consuming edible mushrooms, trading and cultivating edible mushrooms. Only few traders of edible mushrooms and few of cultivators of edible mushrooms for commercial purposes were observed, except the wild mushroom hunters that utilized the raining season and generate income for their improve livelihood. The result showed that most individuals in Zaria communities and their environs do not have an interest in eating mushrooms due to the fear of collecting poisonous mushrooms that are much alike with the edible ones. The weather condition is not much favorable for mushroom growth.

Keywords: Edible mushrooms, Collections, Rural Livelihood, Utilization, Zaria.

1. Introduction

Mushrooms are fleshy spore bearing fruiting bodies of fungi produced above ground on soil or entire food sources. Mushrooms are sources of food, income and medicinal values. Mushrooms are of the fungal kingdom (Donnelly, 2001). Mushrooms have become popular in recent years as food and tonics due to their nutritional and medicinal content (Chang, 1993 and Oei, 1996).

The Saprophytic macrofungi are found growing on dead organic matter of plant origin, therefore, utilizing almost all plant materials as substrates (Musa and Aliyu, 2007). The cultivation of edible mushrooms in Nigeria, especially in Northern part, is still in its infancy (Musa *et al.*, 2009).

Many species of mushrooms seemingly appear overnight, growing and expanding rapidly. Mushroom species take several days to form primordial mushroom

fruit bodies. The primordial form on the ground, in lawn, field, soil, dead woods, and anthills and on any suitable substrate found appear after heavy rainfall, which balloon to full size in a few hours, release spores and then collapse. Some mushroom species are slow in growing. These types of mushroom generally add tissues to their fruit bodies in different manners such as growing from the edges or hyphae (Kadiri, 2008). Mushrooms and toadstool back from centuries were never defined nor was their consensus in the application except to say that the term "toadstool" was generally, but not exclusively applied to poisonous fungi. Edible mushrooms are considered healthy foods because their mineral content is higher than that of meat or fish and most vegetables (Chang, 1981). Furthermore, the protein content of fresh mushrooms is about twice that of vegetables (Chang, 1981). Edible mushrooms contain all the nine amino acids essential for man and they are rich in lysine and are lacking in most staple

cereal foods (Li and Chang, 1982). Mushrooms are low starch, hence low in fat calories and other carbohydrates. Mushrooms with their potential medicinal values are an ideal food for diabetics and overweight persons. Mushrooms are not well known and not many people consumed mushrooms in households, hence, few people collect edible mushrooms during the rains. Mushrooms are also used for dyeing wool and other natural fibers because of the presence of chromophores compound that produces strong and vivid colors. Common types are the polypores that were used as a source of the primary sources of dyeing textiles. The survey collection of mushrooms in this study arrived in assessing its edibility, trading and improvement of Zaria local community's livelihood.

2. Materials and method

The study was carried out in Zaria and its environs on latitude 11:07' and 12°N and longitude 07:44' and 8°E with a mushroom temperature of 36°C. The mean annual rainfall is 1100mm (Laah *et al.*, 2008).

An interview schedule with structured questionnaires was used as a factor finding techniques to obtain information from mushroom collectors, growers, consumers and traders. A total of 225 respondents made up of 68 consumers, 10 collectors, 38 traders, 9 growers and 100 respondents had no idea of edible mushrooms. The survey was undertaken by randomly interviewing people in their homes, market, farms, and hotels and along roadsides in Zaria and its environs.

3. Results and Discussion

125 respondents had an idea on edible mushrooms and 100 respondents had no idea about edible mushrooms (Table 1). The commonest species that were collected by the communities were *Termitomyces globulus*, *Pleurotus ostreatus*, *Cantharellus cibarius* and *Lentinus edodes*.

Table 1. Percentage of individuals that filled the questionnaire.

Individual	No. of Questionnaire	Percentage (%)
Collectors	10	4.45
Traders	38	16.89
Consumers	68	30.23
No idea on Mushroom	100	44.00
Growers	9	4.00
Total	225	99.57

The most preferred collected species by the respondents were *T. globulus*, *Pleurotus ostreatus* and *Lentinus edodes*. Mushrooms were mostly collected from Botanical gardens, lawns, dead trunks around the densely tree populated habitats.

The collectors considered edible fungi as an alternative or supplement to meat or fish but prefer to

sell them to get more money to buy meat or fish which is less expensive.

Table 2. Individuals that are consumers, non-consumer and without an idea on a Mushroom.

Individuals	Traders	Cultivators	Collectors
Consumers	48	03	07
Non consumers	11	0	0
No idea	9	0	0
Total	68	03	07

3.1 Food and medicinal values

Mushrooms were highly valued by all respondents for several important reasons. Some were collected for ritual purposes or traditional belief (Apetorgbor *et al.*, 2005). Some were used for eating as nutritional and some for medicinal purposes (Sawyer, 2005). Chipompha, 1994, reported that the availability and supply of edible mushrooms were rarely reached. Some cultivators do not have much idea or knowledge about mushrooms except those in higher learning that used them for research. Mushrooms for food may be cooked fresh after harvesting or first dried. Fresh mushrooms are washed and put in small pieces before being used in the preparation of stew and soup. Various reasons were given for the choice of mushrooms consumed. The majority of the consumers choose edible mushrooms for their taste, which enhances appetite, followed in a decreasing order by their availability, influence of neighbors, texture and price after edibility. In some urban areas, Mushrooms are included in soup and stews as delicacies while *Pleurotus* spp. lowers blood pressure. Ironically, most consumers did not consider the nutrient value of the mushrooms.

4. Conclusion and Recommendations

Few respondents consume a few edible mushrooms and the most preferred are *T. globules*, *Pleurotus* spp. and *L. edodes*. Mushrooms were believed to have some medicinal values including lowering of blood pressure in hypertensive patients and alleviating heart pains among others. Mushrooms are a source of income for a lot of rural dwellers when in season.

Pleurotus ostreatus are exotic mushrooms commonly cultivated by city dwellers, but both urban and local folks prefer *Termitomyces* spp. growers cultivate for subsistence needs and for research purpose. Workshop training programmed need to be organized to help individual groups to create more awareness on cultivation, nutritional and medicinal values to create job opportunities. There is the need to develop a viable scale of operation to sustain and enhance the production of Mushrooms spawns and develop techniques to domesticate and cultivate edible wild mushrooms to meet the demands of urban dwellers.

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