DOCUMENTATION OF THE INDIGENOUS EDIBLE MUSHROOM VARIETIES IN SABANGAN, MOUNTAIN PROVINCE

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ABSTRACT

This study was conducted in four barangays of Sabangan, Mt. Province to identify edible and non-edible mushrooms which are familiar to the respondents; determine the indicators in identifying edible and non-edible mushroom; to find out what months and areas are these available; and, to know the common uses of the mushrooms.

The data was gathered through personal interviews from forty (40) respondents. Majority of the respondents are married and had formal education.

All the respondents identified various indigenous mushrooms in the study area. These are: ***damilohan, kentegan, hedlan, kodi, o-ong, lamlam-ing, ul-ulling, tagtaga,*** *and* ***binungbungian*** *which usually grow under pinestand, grassy field, laws, dead logs, and animal manure.*

The only considered indicators used by the respondents to identify edible and non-edible mushrooms is that non-edible ones grow on animal manure while edible ones are those that have been tried and tested by some to not have adverse effect on the stomach.

The respondents claimed that the mushrooms were used for decoration, thermos stopper, ash tray, souvenir items and as fly killer.

KEYWORDS: indigenous mushroom, edible mushroom

INTRODUCTION

Mushrooms are nutritionally functional food and a source of physiologically beneficial and non-toxic medicines. "Soma", the divine drink, is supposed to be obtained from the mushrooms which means with the help of

"soma", we may be free from diseases, and demons. Mushrooms find place in traditional folk medicine throughout the world since ancient times. In present scenario this study may help to develop strategies to produce large scale edible proteins which will solve the problem of hunger and nutrition in African and developing Asian countries (Waser and Weis 1999).

Indigenous mushrooms have been considered as luxury food since the ancient time because of its nutritional value. Nutritionally, mushrooms are rich in vitamins, protein, and minerals. Mushrooms are ideal substitute for vegetable and meat. It contains zero cholesterol. Usually indigenous mushrooms are used as ingredient in many cooked dishes due to its distinctive flavor and attractive appearance. In addition, they are considered as medicinal foods. These indigenous mushrooms grow abundantly in cool, moist, woods, compost heaps and pastures. It is well-known that some of them are edible and some are poisonous. Being unable to distinguish or identify the edible from poisonous ones, we do not dare to use these mushroom for food (Cadaweng *et al*, 1995).

In Sabangan, like other places in Mountain Province, a large number of edible mushrooms are plentiful from the month of May to December. Since indigenous mushrooms are widely used by older village folks in the locality, young generation and concerned people must enrich their knowledge in identifying the different indigenous mushrooms present in the locality.

Result of the study could be useful to other residents and to people in other locality who are interested in mushroom production and in mushroom as a source of livelihood. Baseline information on these mushrooms could also help researchers and other interest groups who wish to do an extensive study on indigenous mushrooms, and who plan to conserve and improve them.

It is therefore important to study the indicators which the people used in identifying edible mushrooms grown in Sabangan, Mountain Province. These may serve as a useful guide for the people to distinguish the edible from poisonous mushroom.

Objectives of the Study

The study aimed to:

1. Identify the different indigenous mushrooms grown in Sabangan, Mountain Province;

2. Determine the indicators which the respondents used in identifying edible mushrooms;

3. Determine the season of abundance for each type of mushrooms;

4. Identify where the indigenous mushrooms grown; and

5. Identify the uses of mushrooms in the community.

METHODOLOGY

The study was conducted in October 2007 at Sabangan, Mountain Province particularly in four barangays, Pingad, Bao-angan, Bun-ayan and Camatagan. The municipality of Sabangan is predominantly rugged and mountainous with abundant pine trees that favor the growth and development of indigenous mushrooms. The temperate climate of the place and the abundance of indigenous wastes are suitable to the productivity of fungi such as mushroom. Sabangan is 95 kilometers away from Baguio City. The travel time is five to six hours and it can be reached by any land transportation.

Forty respondents; 10 each from the four barangays of Pingad, Bao-angan, Bun-ayan and Camatagan, were interviewed at random.

Data were gathered with the use of an interview schedule. All questions were constructed in English but were translated in the vernacular by the researcher for the respondent.

The data included the identified edible and non-edible mushrooms which were familiar to the respondents; the indicators in identifying edible and non-edible mushroom; what months and areas as these available, and, the common uses of the mushrooms.

Percentage of responses was computed.

RESULTS AND DISCUSSION

Identification of Mushrooms Available in Sabangan

The respondents identified eight mushroom species to be available in their area.

Damilohan variety (*Suillus bovines* tentative). Slippery edible mushroom appearing brown on the surface and yellowish at the lower surface,

measuring 3"x5" wide, polyporous and may grow in mountain slopes, under pine stand and even backyard. (Figure 1).

Kodi (Fomes fomentarious). This is found on fallen pine trees or dead logs with white cap, fleshy, smooth and hard. This mushroom is available all year round (Figure 2).

Kentegan (Buletus edulis). The cap is convex, dark brown, smooth and hard measuring 3 by 9 cm thick. The stalk is yellowish and measures 4 by 8 cm long and usually found on grassy field areas or under pine stand (Figure 3).

O-ong (Termitomyces sp.). The cap is brownish with sharply pointed ambo, the gills are free, creamy white, fleshy fibrous and could compare its flesh to a chicken meat (Figure 4).

Hedlan (Russula emetica (tentative). These are found on shady environment like mountain slopes, sometimes on under pine stand and available from the month of March to May (Figure 5).

Ul-uling (Russula delica). The cap is gray in color, it has a short and thick stem measuring 3" by 5" long and usually grows on pine forest on the month of July to August (Figure 6).

Binungbungian (Amanita verna). It has a ring on the stem, brownish in color with white spots on the top of the cap and usually grows on animal manure but sometimes on under pine stand (Figure 7).

Tagtaga (Amanita muscaria). These types of mushrooms are particularly poisonous, it has a large size of cap and long stem usually grows on animal manure (Figure 8).

The descriptions of the identified indigenous mushrooms were consulted/confirmed with Dr. Janet S. Luis, plant pathologist, Benguet State University, La Trinidad, Benguet.

Edible Mushrooms Identified by the Respondents

Figure 1. Damilohan

Figure 2. Kodi

Figure 3. Kentegan

Figure 4. O-ong

Figure 5. Hedlan

Figure 6. Ul-uling

Non-edible Mushrooms Identified by the Respondents

Figure 7. Binungbungian

Figure 8. Tag-taga

Indicators Used in Identifying Edible and Non-edible Mushroom

Table 1 presents the indicators which the respondents consider in identifying edible mushrooms.

Table 1. Indicators used by the respondents in identifying edible and non-edible mushrooms

CHARACTERISTICS	FREQUENCY	PERCENTAGE
Edible mushroom		
Good taste and aroma	40	100
Veil easily peeled off	21	52.5
Non-edible		
Ring present on its stipe	40	100
Long stipe and large size of cap	35	87.5
Mushrooms growing on manure	40	100
Dark color of gills	34	85

**Multiple responses*

The mushrooms were considered to be edible if they have good taste and aroma (100%) and their veils are easily peeled off (52.5%).

Habitat of Indegenous Mushroom

Table 1 also presents the characteristics of non-edible mushrooms. Out of 40 respondents, 100% mentioned that the popular mushrooms called *tagtaga* and *binungbungian* are not for table use. About 100% believed that all non-edible mushrooms have ring present on its stipe and mushrooms that grows on animal manure mushroom with long stipe and large size of cap were also considered poisonous as claimed by 87.5%, and mushrooms with dark gills are 85% claimed by the respondents.

In addition, as mentioned by Olive (2001) death due to mushroom poisoning are caused by these species. The fruiting body is white with a distinct cap at the base; a well-develop ring around the s talk beneath the cap. These mushroom have a brown cap with white scales on top.

Table 2 shows that the habitats of indigenous mushroom were commonly under pine stand for the varieties *damilohan* (90%), *hedlan* (75%), *kentegan* (70%), *ul-uling* (62.5%) and *binungbungian* (37.5%). The *damilohan, kentegan* and *o-ong* grows in pasture areas; *o-ong, kentegan,* and *hedlan* varieties in grassy field; the kodi variety in dead logs/fallen woods; lamlam-ing on burned mountains; the *tagtaga* and the *binungbungian* varieties on animal manure. This implies that the various varieties of mushrooms grows abun-

dantly in moist woods, compost heaps, and pastures.

As stated by Tedder *et al.* (n.d.), forest waste like leaves and wood can be utilized in a better way than burning as fuel. Production of mushrooms as good quality protein from agro and forest wastes is a suitable alternative. The forest floor can be cleaned and leaves can be utilized for production of mushrooms. The sawdust produced in sawmills is wasted. An alternative approach to use this like mushroom cultivation is proposed.

Table 2. Common habitat of indigenous mushroom

HABITAT	FREQUENCY	PERCENTAGE
Under pine stand		
Damilohan	36	90
Hedlan	30	75
Kentegan	28	70
Ul-uling	25	62.5
Binungbungian	15	37.5
Pasture Area		
Damilohan	23	57.5
Kentegan	15	37.5
O-ong	13	32.5
Grassy Field		
O-ong	27	67.5
Kentegan	18	45.0
Hedlan	10	25
Dead logs		
Kodi	40	100
Burned Mountains		
Lamlam-ing	40	100
Animal Manure		
Tagtaga	40	100
Binungbungian	20	50

**Multiple responses*

Season of Abundance

Table 3 shows the month when the indigenous mushrooms ere abundant. All the respondents (100%) claimed that the varieties *kodi, tagtaga* and *binungbungian* appeared throughout the year. Whereas the variety *o-ong* (95%), August to September; *ul-uling* (65%), July to August; *kentegan* (63.5%), March to May; and *lamlam-ing* variety appeared during the month of April as claimed by the 20% respondent. The respondents claimed that the growths of indigenous mushrooms are associated with rains signaled by lightning and

thunder.

Table 3. Season of abundance of indigenous mushroom

MONTHS	MUSHROOM	FREQUENCY	PERCENTAGE
July to August	*Ul-uling*	26	65
August to September	*O-ong*	38	95
March to May	*Hedlan*	23	57.5
	Kentegan	25	62.5
April	*Lamlam-ing*	8	20
April to May	*Damilohan*	23	57.5
Throughout the year	*Kodi*	40	100
	Tagtaga	40	100
	Binungbungian	40	100

**Multiple responses*

Utilization of Indigenous Mushroom

Table 4 presents the uses of indigenous mushroom identified by the respondents. All the respondents claimed that *damilohan, hedlan, kintigan, lamlam-ing, ul-uling* are considered as an ingredient to almost any cooked dishes (100%); the *kodi* variety considered by the 87.5% of the respondents as decoration, thermos stopper (25%) ash tray (12.5%), and souvenir (20%). This mushroom, when dried, the cap is white and hard. The *ul-uling* variety as claimed by the 37.5% of the respondents can kill flies.

Table 4. Common utilization of indigenous mushroom

MUSHROOM	USES	FREQUENCY	PERCENTAGE
Damilohan	For food	40	100
Hedlan	For food	40	100
Kentegan	For food	40	100
O-ong	For food	40	100
Ul-uling	For food	40	100
Kodi	Decoration	35	87.5
	Thermos stopper	10	25
	Souvenir	8	10
	Ash-tray	5	12.5
Ul-uling	Eradicates flies	15	37.5

SUMMARY AND CONCLUSIONS

Summary

The documentation of the various indigenous mushroom variety was conducted to identify the different indigenous mushrooms known by the respondents, the indicators which they use in detecting edible mushroom, the months when the indigenous mushroom and when do these appear, their common uses of these indigenous mushrooms. This was conducted in October 2007. Data were gathered with the use of a survey questionnaire and personal interview. The data gathered were tabulated, categorized, analyzed and documented.

The different indigenous mushrooms growing in the study area are as follows: *domilohan, hedlan, kentegan, kodi, lamlam-ing, o-ong, ul-uling, tagtaga* and *bunungbungian.*

Indicators which the respondents used in identifying edible and non-edible mushrooms were noted. Edible mushrooms according to the respondents are those in lawn, pasture areas, slopes, under pine stand, grassy field, dead logs, field with the presence of mites, and burned mountains. The non-edible mushrooms, respondents identified poisonous ones when they grow on animal manure, under pine stand and abundant throughout the year. From respondents' description, the fruiting body is white with a distinct cap at the base and with a well-develop ring around the stalk beneath the cap.

The respondents claimed that the growths of indigenous mushrooms are associated with rains signaled by lightning and thunder.

All respondents claimed that the mushrooms were used as ingredient to any culinary dishes, as decoration, as thermos stopper, as an ash tray, as souvenir and for flies' killer.

Conclusions

Based on the findings of the study, the following conclusions are made.

1. Respondents employ common indicators in identifying edible and non-edible mushroom, such as the habitat, physical characteristics, and sometimes from trying them as food.

2. Indigenous mushrooms grow normally in pine stand, pasture areas, dead logs and manures. Mushrooms usually come out on the onset of rainy season.

4. Indigenous mushrooms are basically used for food. Other uses are as decoration, thermos stopper, souvenir and ash tray. Specifically the non-edible or poisonous ones.

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