

**WILD EDIBLE MUSHROOMS OF MEGHALAYA****PARAN BARUA, R.K ADHIKARY, PABITRA KALITA, DALIMI BORDOLOI,  
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**Abstract** Different flesh mushrooms grow widely in Meghalaya. Altogether five edible species were collected and identified which were found abundantly in forest and are known to be consumed by local people for time immemorial. The species identified are *lentinus edodes* (Berk) Sing., *Boletus edulis* Bull ex Fr., *Clavaria cinerea* (Fr.) Schroet, *Clavaria aurea* (F) Quet and *cantharellus floccosus* Juss.

**INTRODUCTION**

Meghalaya (25° 47'N and 26°10'N latitude and 89°45'E and 92°47'E longitude) is a hilly state projecting like a monument between the two plains of Assam in the north and Bangladesh in south, it has a wide variation in altitude, topography, agroclimate, etc. The region in general is blessed with a rich forest growth, with about 0-50% of the geographical area covered with lush green forests. These forests, abound in macrofungi which are found growing on the forest-floor, wigs and branches, rotting plat pats, in mycorrhizal association with higher plants, etc. Local tribal population of the area has been utilizing a few of the edible fungi for table purposes as it has several nutritive and medical values. Antiviral, antitumour and hypolipidemic activities of *lentinus edodes* and antirheumatism, activity of *boletus edulis* have already been reported (Bahl, 1983). The edible fungal flora or the region as such still remains to be scientifically explored. The present investigation was, therefore, initiated to survey and identify the edible fungi of is region with respect to their morphology distribution, habitat and edibility etc.

**Materials and Methods**

A field survey was undertaken during the month of July-August of the current year (1995) in the hills of Meghalaya covering the places viz., Nongstoin, Nongpoh and Upper Shillong. For this survey, perforated polythene bags were arrived by the survey team for collection of mushrooms. The edible mushroom species were collected on the basis of information made available by the local tribal people on their edibility. Later on morphological studies were done and these were preserved for further studies. The descriptions were based on stud of fresh as well as dried material, the colour terminology used is that of Kernerup and Wanscher (1967).

**Results and Discussion**

On the basis of morphological studies, collected mushroom species have been identified and described below.

***Lentinus edodes* (Berk) Singer**

Commonly known as “Shiitake” mushroom. It is a typical and popular forest mushroom whose commercial production is done on

logs in china and Japan. In India, it is grown since the last 800 years (Shukla, 1994) It grows extensively in decaying logs of Oaks (*Quercus serrata*, *Q. acutissima*, *Q. mangolica* var. *grossoserrata*), Horn beans (*Corpinus japonica*) and chestnut (*castanea crenata*) in Meghalaya forests.

Sporophores 5-12 cm are solitary or in groups in the decaying logs. Caps pale to dark reddish brown, convex & becoming broadly convex to nearly plane on aging. Margin was inrolled when young. Cap covered by white veil remnant, cracking, flesh was creamy firm easily drying and reconstituting. Gills are white & either adnate or adnexed. They are also crowded within curved edges & are smooth or lightly serrate. Stipe 3.5 X 3.35 cm, central on maturity, short, very tough, smooth or slightly fibrillose. Spore mass white with size ranging from 5.5 – 6.5 X 3-3.5 µm They are subcylindrical, smooth, nonamyloid. Basidia tetrapolar. Pleurocystidia none. Hyphae hyaline 5- 7 µm wide, gill trama with thick walled hyphae. Clamp connection present.

### ***Boletus edulis* Bull ex Fr.**

*B. edulis*, an edible bolete, is regarded as a prized delicacy in the west and consumed in Himachal as well, but lesser extent (Lakhanpal et al., 1988). Earlier, *edulis* was recorded by Lakhanpal (1988) from Himachal Pradesh, Sagar and Lakhanpal (1994) from North West Himalayas, Harsh et al (1983) from Kumaun hills and Sarma et al. (1994) from Himachal Pradesh.

Pileus 2-12cm broad, broadly convex in age, surface dry, viscid when wet, glabrous, smooth, wrinkled or shallow pitted, light yellowish brown to brownish or with darker shades of brown, dusted with a whitish bloom, margin regular, smooth, incurved

when young, context firm, 10-15 mm thick, white, unchanging smell pleasant, taste is like that of meat, tubes 8-10mm deep, adnexed but depressed around the stipe, pale whitish, yellowish white to olive yellow in age, unchanging, pores minute, roundish stuffed in hung yellow to yellowish brown in age, stipe central, 4-9cm long, 1-2cm across, bulbous when young becoming equal, base subradicating. Light brownish in the apex, whitish yellow below, reticulate in the upper half, flesh firm, white, unchanging.

Spores olive brown in mass, 12-16 X 4-5.5 µm, ellipsoid, subfusiform, inequilaterally in profile, yellowish to olive, yellow in KOH, inamyloid, smooth, clavate, 4 spores, pleurocystidia scattered, narrowly fusoid ventricose, thin walled, cheilocystidia similar. It grows profusely on ground in coniferous forest.

### ***Clavaria* spp**

The family of fungi, commonly called the "Club" different species of *Clavaria* were earlier recorded by Thind and Sagar (1985) from Eastern Himalayas, Shashikant and Rampal (1993) from Jammu and Kashmir and Thind and Sharda (1985) from the Himalayas. The species of this genera grows singly or in pairs in coniferous forests.

### ***Clavaria aurea* (Fr) Quel**

Yellowish pale brown, branches erect, parallel, on wood, 3-10cm high branches slender, often violet tinged, flesh tough, bitterish, smell faintly spicy on decayed stumps buried branches penetrated by white mycelium strands.

### ***Clavaria cinerea* (Fr) Schroet.**

Stipe stout, massive, with dense branching reddish at tips, 5-10cm high, upto 20 cm road, yellowish brown or tan, stipe massive 3-4 cm high to 6cm wide, branchlet tips varying red to purplish, flesh brittle, mild, smells fruity.

***Cantharillus floccosus* Juss.**

The most obvious distinguishing characters of the genus are the vase or funnel shape of the cap, and recurrent forked gills, that in most species are so thick that they appear more like ridges than true gills. Cap 5-8cm wide, at first conical or almost cylindrical with the flat top, latter shallow funnel shape scaly, yellow to pale orange, margin curved downward or rolled inward, flesh white, firm gills 8-12cm, 1-2mm wide, 1mm tick ridge like, long decurrent but ending rather

abruptly on the stem, frequently forked and joined, yellow to reddish yellow. Stem 3-6cm long, 1-2cm thick, uniform in diameter, solid, pale yellow, often with white mycelium at the base, solitary to scattered on the ground in diameter, solid, pale yellow, often with white mycelium at the base, solitary to scattered on the ground in upland hardwood and conifer forest.

The nutritive value of these edible mushrooms growing wild in Meghalaya need to be determined and its medicinal value has to be established. Further work on these mushroom species is required to find out the farming technology for commercial production. These may substitute other protein rich foods and lead to the economic development of the rural people.

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