Some Of The Fleshy Fungi From Balaghat District, Madhya Pradesh

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ABSTRACT: The fungal diversity gaining importance in the living world as they play an important role in forest ecosystem. Fungi break down woody plants in to their basic elements are a critical part of the tropical ecosystem. Forest of Balaghat harbours with many fleshy fungi belonging to class Ascomycetes and Basidiomycetes. During the present investigation we found about 24 species of the fleshy fungi in the forest of Balaghat. The investigation shows that the forest is very rich in fleshy fungi diversity.

Key words: Balaghat, Fleshy fungi, Diversity, Ascomycetes, Basidiomycetes, Congenial

Introduction: Fungi are cosmopolitan heterotrophic organisms that are quite specific in their nutritional and ecological requirements. As such, they have been generally divided into humicolous, lignicolous, coprophilous, fungicolous, parasitic or saprophytic or may show mycorrhizal association with forest trees. The important group of fungi, which includes such familiar forms as mushrooms, toadstools, bracket, shelf, and crust fungi, puff balls, earthstars, and coral fungi, belongs to Basidiomycetes and Ascomycetes. They occupy many niches in the environment, including decomposing litter, decaying wood and soil organic matter, in a variety of habitats such as forests and open countryside. They are traditionally identified by the form and microscopic structure of their fruitbodies, and by their appearance. Fungi are the important elements of forest ecosystems, as they take care of the decomposition of coarse woody debris (fallen trunks, branches, stumps, etc). They are intensively studied and systematically documented in Europe and North America (Donk 1962; Burdsall 1985; Gilbertson & Ryvarden 1987; Hjortstam & Ryvarden 1990; Ryvarden & Gilbertson 1994). Several resupinate species have been published from different parts of the world (Julich 1976; Hjorstam & Ryvarden 1982; Roy & De 1996; Hattori & Lee 1999; Dai 2000; Lee et al. 2004). Many researchers studied resupinate fungi in India (Bose 1938; Banerjee 1947; Bagoche & Bakshi 1951; Bakshi 1971; Thind & Dhanda 1980; Roy & De 1996). In central India, these fungi have been also studied (Saksena & Vyas 1964; Verma et al. 2008; Wasnik et al. 2012).

The present paper gives an account of some of the fleshy fungi from Balaghat districts of Madhya Pradesh. Balaghat lies in Eastern M. P. are a rich repository of the unexplored macro-fungal wealth due to its varied climatic and topographic conditions, thus providing congenial environment for the lavish growth of this heterogenous group of fungi. The scope is limitless and this is high time to survey, collect, conserve, record and identifies the biodiversity in general and fungal diversity in particular as no one knows when and how some these valuable forms might be lost for forever.

Materials & Method : Balaghat is located at 21°19_N 79°31_E / 22.24°N 81.3°E. It has an average elevation of 347 meters. The fungal surveys depend on timing and location of observations. The survey methods were adopted according to techniques adopted by Manoharachary et al, 2005, Susan Metzler and Van Metzaler 1992.

Collection of mushrooms: The collection was made in July 2012 to November 2013. The collected specimens were photographed in natural habitat before they were picked up. The field records were noted down. All collected mushrooms were dried for use of voucher specimens. The specimens were shed dried and well managed. Different relevant literatures like, Fries, (1828); Saccardo, (1888); Purukayastha & Chandra, (1985); Philips, (1981); Imazeki et al., (1988), and Adhikari, (2000) were consulted for the scientific identification and to know distribution pattern in the global context.

Result & Discussion : During the survey of the forest of Balaghat, we collect and observed about 24 species of fleshy fungi, which are commonly known as mushrooms, toad stools, bracket, shelf, crust fungi, puff balls, earthstars, coral fungi or cup fungi. These fungi occupied as food for nutrition and also in decomposing litter, decaying wood and produced soil organic matter. **Xylaria polymorpha**, commonly known as dead man’s fingers, is a saprophytic fungus. It is a common inhabitant of forest and woodland areas, usually growing from the bases

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of rotting or injured tree stumps and decaying wood. It is characterized by its elongated upright, clavate, or strap-like stromata poking up through the ground, much like fingers (Fig. 1).

**Xylaria hypoxylon**, It is known by a variety of common names, such as the the carbon antlers,-or the stag’s horn fungus. The fruit bodies, characterized by erect, elongated black branches with whitened tips, typically grow in clusters on decaying hardwood. The fungus can cause a root rot (Fig. 2).

**Xylaria longipes**, also known under the common names “Dead Moll’s Fingers”. Allegedly improves the quality of the wood used in string instruments, in lightening its structure, in particular that of the back usually in maple (Fig. 3).

**Coprinus comatus**, is a common fungus often seen growing on lawns, along gravel roads and waste areas. The young fruit bodies first appear as white cylinders emerging from the ground, then the bell-shaped caps open out. The caps are white, and covered with scales—this is the origin of the common names of the fungus. The gills beneath the cap are white, then pink, then turn black and secrete a black liquid filled with spores (hence the “ink cap” name). This mushroom is unusual because it will turn black and dissolve itself in a matter of hours after being picked or depositing spores (Fig. 4).

**Boletus sp**, The genus Boletus essentially containing all fungi with pores (Fig. 5).

**Russula mariae**, Russula Cap 2-7(10)cm across, convex then flattened, margin striate to sulcate; Stem 20-60 x 5-20mm, equal to tapered at base and apex, firm; white to pinkish or entirely deep pinkish purple; surface dull, pruinose to granular. Flesh white. Odor oily. Taste mild to slightly acrid or oily. Habitat common especially near oak (Fig. 6).

**Daedalea quercina** is a species of mushroom in the Polyporales order. Commonly known as the oak mazegill fungus. The specific epithet refers to the oak genus *Quercus*, upon which it frequently grows, causing a brown rot (Fig. 7).

**Daedaleopsis confragosa**, is a plant pathogen, causing a white rot of various dead hardwoods. It is commonly known as the thin walled maze polypore, or the blushing bracket. It is found all year and is common (Fig. 12).

**Daedaleopsis septentrionalis**, Saprobitic; solitary or overlapping groups on dead wood; Varibly brown, darker with age; densely concentrically zoned; surface finely radiate; margin sharp and wavy. Pore surface white to grayish, then brownish with age; surface bruises pinkish-brown when fresh; pores develop into a lamellate configuration, lamellae (gills) thin, wavy and dichotomously forked (Fig. 13).

**Ganoderma lucidum**, pileus stipitate and shining annual or perennial, the upper surface covered by a hard, smooth crust, often shining as if varnished, distinct from flesh with a pale flesh (Fig. 14).

**Clavaria cinerea**, “It has a short, thick stem, is very much branched and irregular, and becomes ultimately of a cinerous hue. The substance is brittle, and not tough as in some species (Fig. 15).

**Calocera viscosa**, commonly known as the yellow stagshorn, is a jelly fungus, a member of the Dacrymycetales, an order of fungi characterized by their unique “tuning fork” basidia. It has bright orange, yellow or occasionally white branching basidiocarps, which are somewhat gelatinous in texture and slimy to the touch (Fig. 16).

**Cyathus striatus**, is a common saprobitic bird’s nest fungus with a widespread distribution throughout temperate regions of the world. This fungus resembles a miniature bird’s nest with numerous tiny “eggs”; the eggs, or peridioles, are actually lens-shaped bodies that contain spores. The color and size of this species can vary somewhat, but they are typically less than a centimeter wide and tall, and grey or brown in color. The sides of the cup are angled such that falling drops of water can dislodge the peridioles and eject them from the cup (Fig. 17).

**Pleurotus ostreatus**, the oyster mushroom, is a common edible mushroom. Pileus 3 to 5 inches across, convex then flattened, shell-shaped, when young deep bluish-grey to
almost black, becoming more brownish with age. Gills white, becoming pale yellow, deeply decurrent (Fig. 18).

**Armillaria mellea**, Honey Fungus has pileus fleshy, regular, stem central, fibrous, the flesh not distinct from that of pileus (Fig. 19). **Hydnumellum peckii**, is an inedible fungus. It is a hydnoid species, producing spores on the surface of vertical spines or tooth-like projections that hang from the under surface of the fruit bodies. The fruit bodies typically have a funnel-shaped cap with a white edge, although the shape can be highly variable. Young, moist fruit bodies can “bleed” a bright red fluid that contains a pigment known to have anticoagulant properties similar to heparin. The unusual appearance of the young fruit bodies has earned the species common names, including strawberries and cream, the bleeding Hydnellum, the bleeding tooth fungus, the red-juice tooth, and the Devil’s tooth (Fig. 20).

**Coprinus lagopus**, oval pileus at first covered with delicate white, wolly fibrils has slender stem (Fig. 21).

**Coprinus plicatilis**, pileus at first round and then flattened. Amongst grass on lawns, always solitary (Fig. 22).

**Calvatia gigantean**, Giant Puff-ball sporophore of the giant size, round or pumpkin shaped (Fig. 23).

**Lepiota procera**, Parasol Mushroom dull brown to grey colour, covered with shaggy scales. Appeared like drum stick (Fig. 24).

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1. *Xylaria polymorpha*  
2. *Xylaria hypoxylon*  
3. *Xylaria longipes*  
4. *Coprinus comatus*  
5. *Boletus sp*  
6. *Russula mairei*  
7. *Daedalea quercina*  
8. *Daldinia concentrica*  
9. *Trametes gibbosa*  
10. *Pheolus schweinitzii*  
11. *Phellinus gilvus*  
12. *Daedaleopsis confragosa*