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**Diversity Of Macro-Fungi In Kusalamb, Taluka Barshi, Solapur District,  
Maharashtra, India**

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**R. R. Tembhurne.**

*Department of Botany,*

*Sangola Mahavidyalay, Sangola.*

*Corresponding Author - R. R. Tembhurne.*

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**Abstract:**

*Kusalamb village is one of the unique parts from the mushroom point of view which comes under the Barshi taluka district Solapur, state of Maharashtra, India. In this region availability of very rich sources of humus in soil for the better growth of fleshy mushrooms, authors came across and studied four newly recorded species from this region, which previously nobody could study in the concerned area hence it is taken into consideration this area for the study fleshy mushrooms and all four genus and species are being first time reported from the said area.*

**Keywords: Mushroom, Basidiomycetes, Basidia and Basidiospores.**

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**Introduction:**

Originally the word mushrooms are derived from the edible members of toadstools and macro fungi, the gills of the macro fungi are poisonous and non poisonous. The food of the gods is also known as edible mushrooms and now a days it is treated as a functional food or be treated as healthy food or delicacy that can be taken regularly as part of the human diet or garnish (Zhang et al. 2002). Flesh mushrooms are the fruiting bodies of macro fungi, which is grow in decaying places like bunds, water channels, manure heaps, grassy grounds fields, humus rich soil, dung, forests, roots, bark, wood, stems, leaves, fruits and

seeds (Kues and Liu 2000). The soil is one of the most important and interesting factors and is the most characteristic feature of the terrestrial environment in which study of soil increases knowledge and is helpful in the practice of Agriculture, Horticulture, and Forestry. The soil is the earthy material in which wild plants grow. In agriculture point of view the whole taluka come under the rain shadow area. The rainfall in this taluka is uncertain and scanty, the duration of the monsoon from the second fortnight of June to end of September and rain coming from south west monsoon in this area, mostly throughout the year temperature is require 32<sup>0</sup> C. Even though like such type

environment selected for the study of fleshy mushroom which are not before us recorded by any agencies and researchers in certain area.

### Study Region:

The Kusalamb come under the region of Barshi taluka in Solapur district Maharashtra surrounded by 138 villages and cover the total area near about 1481.1 in sq. km. This taluka come uder the eastern part comprises Barshi, North Solapur, South Solapur and Akkalkot tehsil, the soil type in this region is medium to deep black

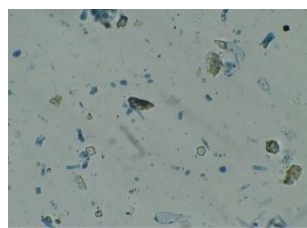
### Material and Methods:

A field survey was conducted from the study of fleshy mushrooms and proper documentation was carried out such as site location and photography. The collection of mushrooms was carried out in the months of June to September, in the month of July 2022 on the soil rich in humus and decaying plant leaves respectively. After the collection of fleshy mushrooms,

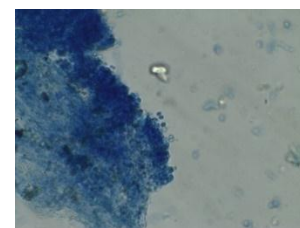
1. *Tricholoma vaccinum* (Schaeff.) P.Kumm. (1871).



a



b



c

*Tricholoma vaccinum* (Schaeff.) P.Kumm. (1871). Fig-1: a-Habit b-Spores c-Basidia and Basidiospores

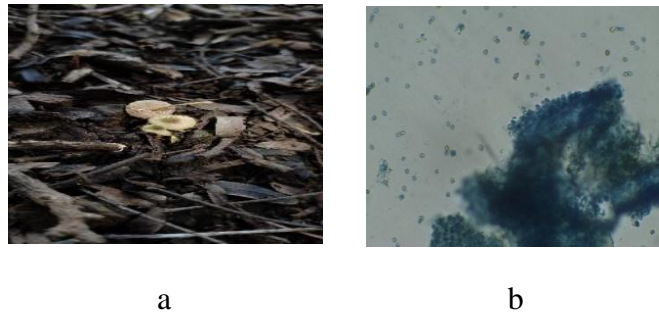
**R. R. Tembhurne**

extra care was taken to maintain the natural structure, color, and fruiting bodies of collected specimens and immediately brought it in laboratory to described it taxonomically and identify it with the help of referring the following references such as, the book Mushroom and their Habitat, (Stijve, T. 1992), (Michael Kuo, 2006), (Alexopoulos, C.J. & C.W. Mims. 1979), (Simon and Schuster's, 1980, 1981 and 1989), (Augusto Rinaldi, Vassili Tyndalo, 1972), All the different species are being reported for the first time from this region is a unique work in front of researchers and not yet to be study by any researchers until this study area.

### Results:

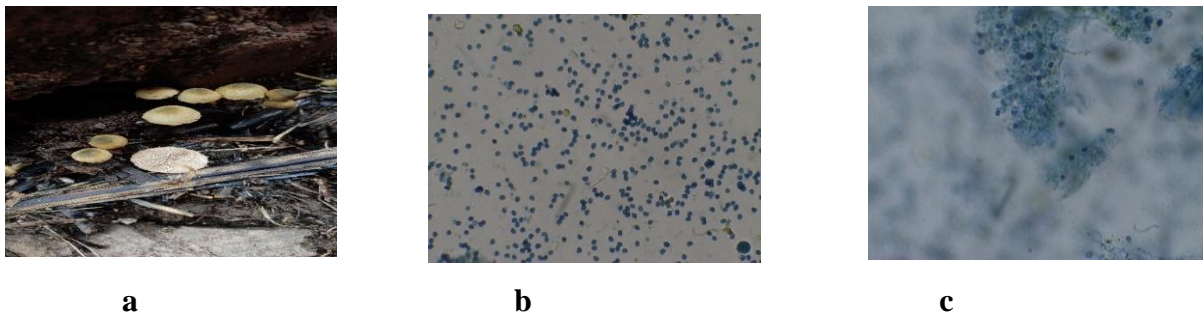
In the present study, *Tricholoma vaccinum*, *Pholiota squarrosoides*, *Xanthagaricus luteolosporus* and *Cantharellus concinnus* of Fleshy Mushroom was first time newly recorded from the research area.

2. *Pholiota squarrosoides* (Peck) Sacc.



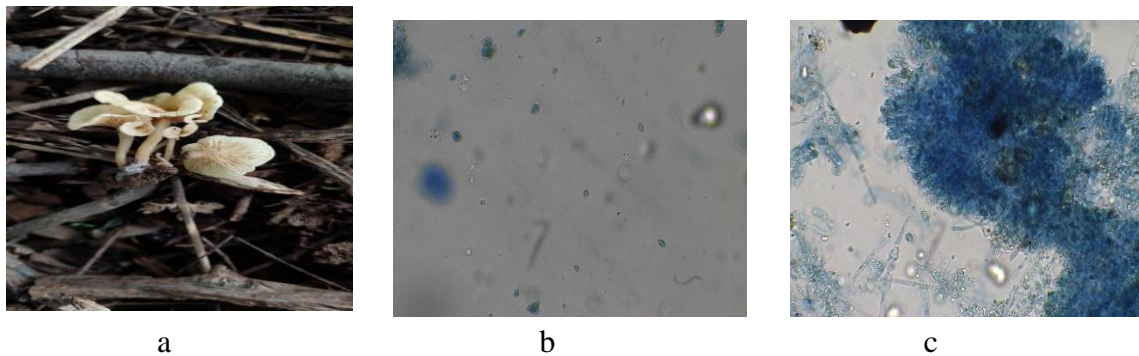
*Pholiota squarrosoides* (Peck) Sacc. Fig. 2 a-Habit b-Spores, Basidia and Basidiospores

3. *Xanthagaricus luteolosporus* (Heinem. & Little Flower)



*Xanthagaricus luteolosporus* (Heinem. & Little Flower). Fig.3 a-Habit b-Spores c-Basidia and Basidiospores

4. *Cantharellus concinnus* Berk. (1878).



*Cantharellus concinnus* Berk. (1878). Fig.4 a-Habit b-Spores c-Basidia and Basidiospores

**Description:**

1. *Tricholoma vaccinum* (Schaeff.) P.Kumm. (1871). **Family:**

Tricholomataceae

**Occurrence:** Solapur District (Kusalamb)

Fruiting body solitary, scattered, laterally fused, Cap 0.1 – 1.1 cm in length, 2.7- 4.1 cm width, Flesh brown, odor mild, Gills adnate, crowded, stalk rhizoidal, long, elongated, cylindrical, Partial veil absent; Universal veil absent Spores 4.98-6.64µ in

size and cylindrical are 6.64-9.96 $\mu$  in length and 4.98-6.64 $\mu$  in width; Edibility poisonous.

2. *Pholiota squarrosoides* (Peck) Sacc.

**Family:** Strophariaceae

**Occurrence:** Solapur District (Kusalamb)

Fruiting body solitary, scattered to gregarious, Cap viscid, glutinous, hygrophonous, Flesh whitish black, Odor mushroom have distinctive taste, mild, flavour pleasant; Gills crowded, Stalk 4.0-5.5 cm long, 0.5- 0.7 cm broad, whitish brown in color, Partial veil absent; Universal veil absent; Spores smooth, globose, oval, Edibility poisonous.

3. *Xanthagaricus luteolosporus* (Heinem. & Little Flower) Little Flower, Hosag. & T.K. Abraham. **Family:** Agaricaceae

Fruiting body texture smooth, rough, Cap viscid, glutinous, glossy, hygrophonous, soggy, Flesh dull blackish brown, when exposed in the air it turns into yellowish white to olive blackish brown in color, Odor mushroom have a distinctive taste, mild, flavour pleasant; Gills crowded, adnate, Stalk rhizoidal, club shaped, Partial ring absent, Universal veil absent; yellowish to blackish white in color, Edibility poisonous.

4. *Cantharellus concinnus* Berk. (1878).

**Family:** Cantharellaceae

Fruiting body growing on soil, Cap uplifted, depressed, brittle, wavy, hard,

stiff, Flesh white, Odor mushroom have distinctive taste, mild, flavour pleasant; Gills distant, decurrent, Stalk rhizoidal, erect, bent, Partial veil absent; Universal veil absent; Spores globose are 4.98-9.96 $\mu$  in size Edibility poisonous.

**Discussion:**

In this area all the four new genus and species i. e. *Tricholoma vaccinum*, *Pholiota squarrosoides*, *Xanthagaricus luteolosporus* and *Cantharellus concinnus* are being described for the first time from this region (Tembhurne et. al. 2021,2022).

**Conclusion:**

Mushroom is one of the delicious, low fat, free from sugar, it can be alone or mixed into any food production, nowadays edible mushroom are easily available in the mall and agricultural area as vegetable purposes to human consumption. It help to cure diagnosis like diabetic disorder, poisonous and non poisonous mushroom are also recorded in the tehsil area of Barshi, the main aspect from this study area to find out edible and non edible species of fleshy mushroom. The study reveals a nuanced perspective on the production, export, and import dynamics in India's mushroom industry. As a commercial bases more number of the mushroom are utilized for the preparation

of various product like beverages, mushroom supplements, cosmetics mushroom pickle, seasonings, extracts, dried and canned mushrooms, etc.

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