



DIVERSITY OF WILD MUSHROOMS IN JEUR, KARMALA TALUKA, DISTRICT SOLAPUR, MAHARASHTRA, INDIA

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ABSTRACT:

The main scope and objective of the diversity study of fleshy fungi is to find edible and non-edible mushrooms from various habitats in said area. The diversity of fleshy mushroom study was conducted in village Jeur, Karmala taluka, district Solapur in September 2022 respectively. Three different genera and species were first time recorded and identified from this area which has not yet been studied. Hence, undertaken this study from Jeur tehsil of Solapur Dist. Maharashtra. All the specimens collected from the study area were non-edible.

Keywords: Mushroom, Pileus, Gills, Spores.

INTRODUCTION:

Mushrooms found in a diverse group of habitat in the forest as well as in domestic area, about 27,000 fungal species is recorded throughout the world (Chang & Miles, 2004) and in India, it is reported about 850 species of mushrooms (Deshmukh, 2004). In this remote area, researchers studied and observed some fleshy mushrooms in September 2022 in Jeur, Dist. Solapur on humus rich soil and dung. Mushrooms are familiar and are rich in antioxidants, fiber, proteins, vitamins, minerals and have a very low amount of cholesterol now called 'host defense potentiates' (Wani et al., 2010), and also contain delicious food properties, pick up less amount of macro fungi, previously no any worker work on the fleshy mushroom in this area, due to this condition selected this region for the study of fleshy mushroom. The survey was carried out in different parts of Jeur, in Karmala taluka, and collection was done in different seasons in certain wild as well as domestic areas with good documentation, this

paper shows the macrofungal diversity in Jeur, Karmala tehsil in the state of Maharashtra, India.

MATERIAL AND METHOD:

All the mushrooms collected from the local area of Jeur are rich in organic and inorganic matter like humus soil and dung also it is developed on parasitic and saprophytic organic and inorganic material. The collection is carried out during the month of June to September, these three new record species were collected from this area in the month of September 2022, for the collection of the mushroom survey, photography, and documentation process are used in the field area. Fresh mushrooms are picked up with a digging knife, and forceps and put into rigid plastic bottles. The collected sample was brought to the laboratory, preserved with formalin, and kept in the refrigerator to maintain a temperature of 20°C before use. The taxonomical study is carried out, identified it with using relevant literature of the books Mushroom and their Habitat, American Publishers, (Augusto Rinaldi, Vassili Tyndalo, 1972); (Lincoff, Gary H, 1981), (Alexopoulos, C.J. & C.W. Mims. 1979), (Simon and Schuster's, 1980, 1981 and 1989) and (Peter Jordan, 1995, 1996, 2000).

STUDY AREA:

The Jeur is a rural area that comes under the taluka Karmala, Solapur district, Maharashtra, India. From a geographical point of view, Jeur is surrounded by 1109.29 Hectares / 11.09 KM², it belongs to western Maharashtra, the division of Pune, from the district headquarters Solapur 125 KM towards the west, near about 301 km from Mumbai state capital. Village Jeur is surrounded by Paranda Taluka towards the East, Indapur Taluka towards the west, Karjat and Jamkhed Taluka towards the North, and Daund, Pandharpur, Baramati, and Shrigonda all these places are located near the cities of Jeur. Geographically Jeur, Karamal taluka, Solapur district is located between 17.10 between 18.32 degrees north latitude and 74.42 to 76.15 degrees east longitude and the district is situated southeast fringe of the state of Maharashtra and lies entirely in the Bhima and Seena basins. The whole of the district is drained either by the

Bhima river or its tributaries. In September 2022, a daily collection of fleshy mushrooms and a survey will be carried out in the rural area of Jeur. In the present study region, no such type of survey was conducted to study the diversity of mushrooms. all three different species were recorded here for the first time in this region hence it is taken into consideration study of fleshy mushrooms.

RESULTS:

In the present study *Collybia cookie*, *Lepiota brunneoincarnata* and *Agaricus bitorquis* of Fleshy Mushroom was first time newly recorded in this region.

DESCRIPTION:

1. *Collybia cookie* (Bres.) J.D.Arnold (1935) **Family:** Tricholomataceae

Fruiting body growing on soil and dung, Cap viscid, hygrophonous, knot like, conical, 0.4–0.5 cm in length, 0.6 – 2.7 cm across, Flesh whitish brown, Odor mushroom have distinctive taste, mild flavour pleasant; Gills crowded, adnate, Stalk rhizoidal, bulbous, Partial ring absent; Universal veil absent; Spores smooth, punctate, globose, spherical, rounded, oval, Edibility poisonous.

2. *Lepiota brunneoincarnata* Chodat & C. Martín (1889) **Family:** Agaricaceae

Fruiting body solitary, scattered, grouped, growing on soil, Cap globose, convex, rounded, octohedral, flat, 0.7 –0.9 cm in length, 1.3-2.8 cm across, Flesh whitish brown in color, Odor mushroom have distinctive taste, mild, flavour pleasant; Gills crowded, sinuate, Stalk dark white in color, at central position, Universal veil absent; Spores; smooth, globose, oval, globose are 3.32-6.64 μ in size and oval are 3.32-6.64 μ in length and 3.32-4.98 μ in width; Edibility poisonous.

3. *Agaricus bitorquis* (Quél.) Sacc. (1887) **Family:** Agaricaceae

Fruiting body solitary, growing on soil, total height 9.7 cm, large, Cap uplifted, convex, depressed, 2.1 cm in length, 9.8 cm across, white, Flesh white, Odor mushroom have distinctive taste, mild; flavour pleasant; Gills crowded, sinuate, more or less seceding, thin, Stalk equal, oblong, rhizoidal, Partial ring absent; Universal veil present, cup shaped, white in color; Spores; smooth,

globose, oval, globose are 3.32-6.64 μ in size and oval are 4.98-9.96 μ in length and 3.32-6.64 μ in width; Edibility poisonous.

1. *Collybia cookie* (Bres.) J.D.Arnold (1935)



a

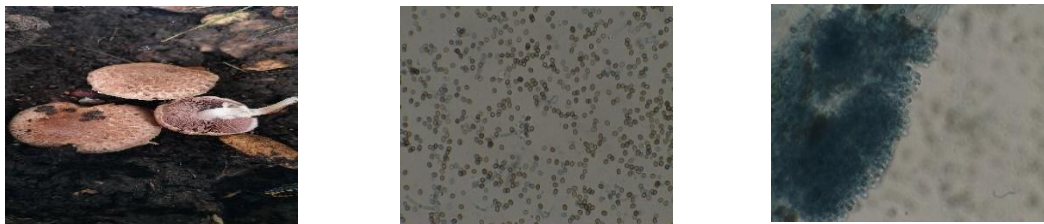
b

c

d

Collybia cookie (Bres.) J.D.Arnold (1935). Fig-1: a and b-Habit c-Spores d-Basidia and Basidiospores

2. *Lepiota brunneoincarnata* Chodat & C. Martín (1889)



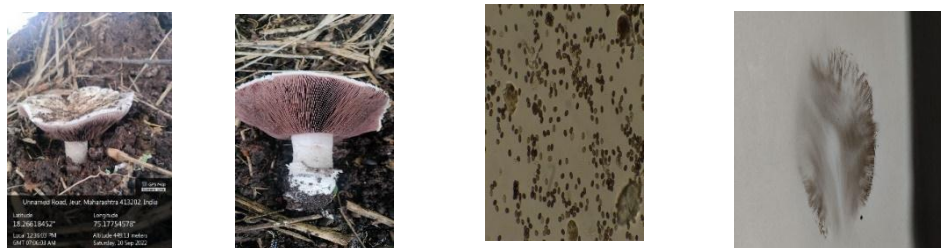
a

b

c

Lepiota brunneoincarnata Chodat & C. Martín (1889) Fig. 2 a-Habit, b-Spores, c-Basidia and Basidiospores

3. *Agaricus bitorquis* (Quél.) Sacc. (1887)



a

b

c

d

Agaricus bitorquis (Quél.) Sacc. (1887) Fig.3 a-Habit b-Spores and Basidia and Basidiospores, c-Spore Print

Discussion: From the Jeur village author are come a cross and collected three species named as *Collybia cookie* (Bres.) J.D.Arnold (1935) Belongs to Family Tricholomataceae, *Lepiota brunneoincarnata* Chodat & C. Martín (1889) having a Family Agaricaceae and *Agaricus bitorquis* (Quél.) Sacc. (1887) Family

Agaricaceae (Tembhurne et. al. 2022). Tribble people identifies the wild and domestic fleshy mushroom utilizing their indigenous ideas in their own places and the local people identifies fleshy mushroom according to their phonological character and naming the mushroom with their local language this knowledge migrate year by year to further generation (Tibuhwa, 2013), (Ao et al., 2016). In human point view mushroom or macro fungi play a significant role in food and medical industry, biodegradation and human welfare (Ozturk et al., 2003).

CONCLUSION:

The research was carried out this taxonomic work and documentation of diversity of wild mushroom from this region is the first time from village Jeur. This is a valuable mushroom study will help to researcher confidently in the future. This local area is very small even though here get diverse group of three type of mushroom this is very good opportunity in concern with researcher.

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