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**DIVERSITY OF FLESHY MUSHROOMS FROM NANDURBAR DISTRICT-MAHARASHTRA (INDIA)**

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<sup>1</sup>Jaydip S. Borse<sup>2</sup>S.Y. Patil**ABSTRACT**

The paper deals with fourteen species of fleshy mushrooms viz. Amanita citrina (Schaeffer) Persoon, Baeospora myosura (Fries) Singer, Chlorophyllum molybdites (Meyer:Fr.) Masse, Crepidotus mollis (Fries) Staude Hebeloma crustuliniforme (Bull.) Quélet, Lepiota cristata (Bolton) P. Kummer, Leucoagaricus barssii (Zeller) Vellinga, Leucocoprinus cretaceous (Bull.) Locq., Lichenomphalia umbellifera (Fr.) Redhead, Lutzoni, Moncalvo & Vilgalys, Marasmius oreades (Bolt.: Fries) Fries, Mycena galericulata (Scop.: Fr.) S. F. Gray, Mycena pura (Fries) Quélet, Pluteus cervinus (Schaeff.) Kumm., and Scleroderma citrinum Persoon. Belonging to thirteen genera of basidiomycetes.

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[Jayborase55@gmail.com](mailto:Jayborase55@gmail.com)**Received:** February 02, 2024**Revised:** February 22, 2024**Published:** February 29, 2024**Keywords-** Nandurbar, Mushrooms, Basidiomycetes.**INTRODUCTION**

A significant and essential part of the ecosystem. Mushrooms are saprophytic in nature. These are fleshy, sub-fleshy or leathery umbrella like sporophore.

The work on collection and taxonomic studies of mushrooms from Maharashtra were done by Sathe and co-workers (1975, 1978, 1979, 1980 a, b), Santhilarasu (2013) Santhilarasu et al. (2010 a, b, c; 2012). From North Maharashtra Patil (2019 a, b). The current studies focuses on the diversity and morphological description of fleshy mushrooms from Nandurbar district.

**MATERIALS AND METHODS:**

Regular fields visits were carried out during rainy season of 2022 in forest covered areas of Bilda, Bhardu, Asthamba, Wawad, Ranipur, Ghotane, Ranala Visarwadi. Macroscopic observations like shape, size, colour of fruiting bodies were made at time of collection. Fungal fruiting bodies that were collected and placed in polythene bags with holes punched in them for air circulation. Collected samples brought to laboratory on the same day to avoid decay for further



work. Microscopic details were studied by free hand section mounted in lactophenol and stained with cotton blue. Identification of fungi were made with the help of Lakhanpal (1996), John Ramsbottom (1969), Peter Roberts and Shelley Evans (2011), Babita Kumari et al. (2022).

Taxonomic Account:

1. *Amanita citrina* (Schaeffer) Persoon

Pileus: Cap: 2.5-8 cm, convex to broadly convex or nearly flat in age; sticky when fresh; adorned with soft, grayish to whitish, brownish, or purplish patches. Gills: Free from the stipe close or crowded; creamy. Stipe: 4-9 cm long; 0.5-1 cm. thick; more or less equal; spores 6.5-9  $\mu$ ; globose; smooth; amyloid.

**Habitat:** Saprobic on decaying leaf litter at Wawad

2. *Baeospora myosura* (Fries) Singer

Pileus: Cap 1.0-2.5 cm broad, convex, expanding to nearly plane, surface dry, glabrous at the disc, colour tan-brown at the disc, shading to buff-brown at the margin, lamellae gills adnexed, Occasionally seeming open, packed, slender, and pale, Stipe: rounded, equal, pliable, up to 5.0 cm in length, 0.5-1.5 mm thick, surface pruinose. 3.0-4.0 x 2.0-2.5  $\mu$ m, smooth, amyloid, ellipsoid spores.

**Habitat:** Saprobic on decaying leaf litter at Bhardu

3. *Chlorophyllum molybdites* (Meyer:Fr.) Masse

Synonym: *Lepiota morgani* (Pk.) Sacc.

Pileus: Cap 5.0-15.0 (20) cm broad, smaller and sparser towards the margin, background color white to buff-brown; lamellae gills free, close, up to 1.5 cm broad, cream-colored, lamellulae two to three-seried, stipe 2.5-6.5 cm long, 1.0-2.0 cm thick, grey-brown, annulus with a double-edged, torn margin. Spores 9.0-11.5 x 6.5-8.0  $\mu$ m, elliptical to ovate in face-view, some apically truncate,

**Habitat:** Saprobic on decaying leaf litter at Bilda

4. *Crepidotus mollis* (Fries) Staude

Pileus Cap 1.0-5.0 cm broad, bean to shell-shaped, laterally attached to the substrate and sessile; cuticle gelatinous when moist, surface pallid to cream, typically covered with fibrillose-brown scales, flesh thin, lamellae gills moderately broad, close, at first pale buff, then brown, emanating from the attachment point. Stipe moderately broad, close spores 6-9 x 4.5-6.0  $\mu$ m, elliptical, smooth; spore brown.

**Habitat:** Habitat: Saprobic on decaying leaf litter at Wawad



5. *Hebeloma crustuliniforme* (Bull.) Quéf.

Pileus: Cap 4-9 cm broad, convex at first with inrolled margin, becoming plano-convex with a broad umbo, surface smooth, viscid when moist, cream to buff shading to a buff-brown disc, flesh thick, white. The lamellae gills are finely serrated, white in colour turning pale brown, and adnate to adnexed. Stipe: 4-7 cm tall, 0.7-1.4 cm thick, enlarged at the base, pale to cap-color, pruinose at the apex. Spores: elliptical, slightly roughened, 9-12 x 6-7  $\mu\text{m}$ .

**Habitat:** Saprobic on decaying leaves Bilda

6. *Lepiota cristata* (Bolton) P. Kummer

Cap: 2-4 cm bald initially but soon turning scaly with pinkish brown to reddish colour convex or obtusely conic at first becoming broadly bell-shaped or almost flat with age dry. brown scales that are usually concentrically arranged Gills: Free from the stem; close; short-gills frequent; white to buff. Stipe: 3-7 cm long; 2-3 mm thick; more or less equal. Spores 5-8 x 2.5-4  $\mu\text{m}$ ; mostly shaped like a wedge or bullet, with a flattened bottom (occasionally more or less ellipsoid, or subfusiform) smooth.

**Habitat:** Saprobic on decaying leaves Asthmba

7. *Leucoagaricus barssii* (Zeller) Vellinga

Pileus: Cap 4.0-13.0 cm broad, hemispherical in youth, expanding to plano-convex, with or without a low umbo lamellae gills free, crowded, cream-colored. 5.0-10.0 cm in length, 1.5-2.5 cm in thickness, frequently robust, filled to a hollow, equal, spindle-shaped, and clavate. Spores: smooth, oval to elliptical, 6.5-8.5 x 4.0-5.0  $\mu\text{m}$  in face-view.

**Habitat:** Saprobic on decaying leaves Asthmba

8. *Leucocoprinus cretaceus* (Bull.) Locq.

Pileus: Cap: 2-8 cm; roundish or blocky and sub-cylindric when young, expanding to convex or nearly flat, dry white covered with small, wart-like scales Free from the stem, close together or crowded, often short and white gills. Stipe: 3-8 cm long; 5-10 mm thick; with a moderately swollen base, covered with soft scales like those on the cap spores 6-12 x 4-7  $\mu\text{m}$ ; sub amygdaliform to ellipsoid, smooth, thick-walled, hyaline to slightly yellowish, and possessing a small pore.

**Habitat:** Saprobic on decaying leaf litter at Wawad

9. *Lichenomphalia umbellifera* (Fr.) Redhead, Lutzoni, Moncalvo & Vilgalys

Pileus: 5-15 mm broad cap, convex with a depressed disc, ageing infundibuliformly, decurved margin, translucent-striate to sulcate. Surface dry, glabrous, cinnamon to brownish. Lamellae. gills decurrent, distant, moderately broad, pale yellowish. Stipe: cylindrical, 10-25 x 1-2 mm, glabrous above, white tomentum at base. Spores are white broadly ellipsoid, smooth, inamyloid, hyaline and measuring 7-9 (-10) x 4-6 (-7)  $\mu\text{m}$ .

**Habitat:** Saprobic on decaying leaves at Visarwadi



10. *Marasmius oreades* (Bolt.: Fries) Fries

Pileus: Cap 1.5-4.0 cm broad, rounded, becoming campanulate (bell-shaped), finally convex to nearly plane, typically with a broad umbo; margin striate when moist, lamellae gills adnexed to nearly free, subdistant, interspersed with shorter lamellae and intervenose; cream to buff-colored. Stipe 2-6 cm tall, 2-5 mm thick, equal, tough, cream to buff above, the base usually somewhat darker and pruinose. Spores 7-8.5 x 4-5.5  $\mu\text{m}$ , elliptical, in equalateral, apiculate (pointed at the end), smooth, nonamyloid; spore print white to pale-cream.

**Habitat:** Saprobic on decaying leaf litter at Bhardu

11. *Mycena galericulata* (Scop.: Fr.) S. F. Gray

Pileus Cap 2.0–5.0 cm broad, obtuse-conic to bell-shaped, expanding to plano-convex, occasionally plano-depressed, margin incurved, then decurved, eventually plane to raised, sometimes wavy, surface moist, striate-wrinkled to near the disc at maturity, color: buff-brown, tan-brown, pale brownish-grey, lamellae gills adnexed to notched with a decurrent tooth, up to 8.0 mm wide, stipe 3-14 cm long, 2.0-5.0 mm thick. Spores 8.5-10.5 x 6.0-7.5  $\mu\text{m}$ , broadly ellipsoid to ovoid, smooth, thin-walled, hilar appendage conspicuous, amyloid.

**Habitat:** Saprobic on decaying leaf litter at Ranala

12. *Mycena pura* (Fries) Quélet

The Pileus Cap is 1.5–4.5 cm broad, smooth, moist, hygrophanous, and comes in a variety of colours, ranging from purple to lilac. Its margin is striate, and it occasionally turns up as it ages. Colours greyish-lilac, rose, pinkish-grey to nearly white. Lamellae gills adnexed, close, moderately broad, intervenose, colored like the cap. Stipe: 2–6 cm in height, 0.2–0.7 cm in thickness, hollow, brittle, equal or tapering to an enlarged base, the latter hairy, surface smooth and cap-colored at the apex, pruinose elsewhere. Spores: smooth, elliptical, amyloid, 6-8.5 x 3–4  $\mu\text{m}$ .

**Habitat:** Saprobic on decaying leaves Bilda

13. *Pluteus cervinus* (Schaeff.) Kumm.

Pileus: Cap 5-13 cm broad, convex, nearly plane in age, umbonate; dark brown to grey-brown, flesh soft, lamellae gills free, close, white, becoming pinkish to flesh-colored at maturity. Stipe 5-12 cm tall, 0.7-1.7 cm thick, equal to enlarged at base; white to pallid, sometimes with dark fibrils; spores 5.0-7.5 x 4-6  $\mu\text{m}$ , smooth, elliptical.

**Habitat:** Saprobic on decaying leaf litter at Ranipur

14. *Scleroderma citrinum* Persoon

Pileus: Cap: 4 to 10cm across and 3 to 6cm tall, the rounded fruitbody is stemless and attached to the ground by white mycelial threads. The spore mass inside the earthball, Gleba, is nearly white at first but quickly turns brown with white marbling and eventually turns purple-brown all over. When fully grown, spores have a spherical, spiny diameter of 8–13  $\mu\text{m}$ , their surface is reticulate, and ribs connect many of the spines to form an incomplete network.

**Habitat:** Saprobic on decaying leaves Ghotane



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**Photo-plate**







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1. Fig. 1:A:*Amanita citrina* (Schaeffer) Persoon B: *Baeospora myosura* (Fries) Singer C: *Chlorophyllum molybdites* (Meyer:Fr.) Masse D: *Crepidotus mollis* (Fries) Staude  
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