IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Survey Of Macrofungi From D.D.U. Gorakhpur University, Gorakhpur Uttar Pradesh, India.

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Abstract

The Present study deals with survey and status of macrofungi diversity of D.D.U. Gorakhpur University, Gorakhpur especially DDU Campus. Macrofungal surveys carried out during 2019-2021 in different place of DDU Campus. A total of more than 85 samples of macrofungi collected during the survey but only 78 Species of macrofungi belonging to 55 Genera of 36 Families is presented. The most dominant family are Agaricaceae representing 17 species. The results indicate that DDU Campus is a rich diversity of macrofungi.

Key words –Macrofungi, Agaricaceae, DDU, Gorakhpur.

Introduction

Fungi are the Universal Organisms. Fungi are most diverse group of organisms on Earth are occupying prominent stage in the biological world (Soosairaj et al., 2012; Bhandari & Jha, 2017). Fungi are the Cosmopolitan, eukaryotic organisms that have lack of chlorophylls. Fungi are the heterotrophic organisms are parasites or saprophytes or parasites in nature . (Bhandari & Jha, 2017; Chandrawati et al., 2014). Mushrooms are the widespread in nature can grow naturally in rainy season by virtue of god and earliest primitive form fungi known to human-kind (Vishvakarma & Tripathi 2019).Macrofungi fungi are commonly known as Mushrooms. Macrofungi are the most important component of the global diversity especially for the terrestrial ecosystem because they are play key role in the terrestrial ecosystem (Bhandari & Jha, 2017; Chandrawati et al., 2014).

Macrofungi Diversity

Scientific investigation has only examined a small portion of the entire wealth of fungi, and mycologists are still working to find answers the unexplored and hidden wealth. India is home to one-third of the world's fungal diversity, of which only 50% has been described to date (Manoharachary et al., 2005).

Global Macrofungi Diversity

A total of 21,679 macrofungus names were gathered. For temperate Asia, the percentage of unique names was 37%, whereas for Australasia, it was 72%. The collaborating authors assessed that there were over 35,000 macrofungal species that were "unknown." This would result in an estimated 56,679 macrofungi in total.(Mueller G.M. et al., 2006).

Macrofungi Diversity of India

Around 2000 species of wild edible mushrooms are thought to exist worldwide, according to many researchers, although only 283 edible species have been found in India (Choudhary et al., 2015). There are roughly 1200 species of mushrooms known to exist in India, of which 300–315 species are considered edible.(Panda et al.2019). There are 60 genera in the orders Agaricales, Polyporales, and Russulales, totaling 132 species in

India.(Meena et al., 2020). There are 733 macrofungi reported from North East India are belongs to 94 families and 21 orders. (Roy N. et al.,2022).

Macrofungi Diversity of Uttar Pradesh

A total of 201 macrofungal species from 44 families were reported form Uttar Pradesh. Out of all the macrofungal species that have been identified, 59 are edible, 109 are inedible, 4 are choice edible, 7 are poisonous, and the remaining 22 are their edibility is unknown (Singh B. & Singh V.K. 2022).

Macrofungi Diversity of Gorakhpur

From Gorakhpur region, 153 different kinds of macrofungi were gathered. With 20 species, the Agaricaceae family has the highest number of macrofungi, followed by the 14 species in Polyporaceae, the 14 species in Tricholomataceae, the 9 Psathyrellaceae, the 7 Coprinaceae, the 7 Lyophyllaceae, the 7 Pluteaceae, the 6 Fomitopsidaceae, the 6 Lycoperdaceae, the 5 Marasmiaceae, the 6 Mycenaceae, the 5 Pleurotaceae, the 5 Xylariaceae, the 4 Ganodermataceae, the 4 Hymenochaetaceae, the 4 Lentinaceae, the 3 Auriculariaceae, the 3 Hygrophoraceae, and the remaining 3 species (Viswakarma, et al., 2017).

Material and Methods

Survey Area

Deen Dayal Upadhyaya Gorakhpur University, Gorakhpur Uttar pradesh, India. DDU. Gorakhpur University Campus is situated in Gorakhpur district of Uttar Pradesh. Deen Dayal Upadhyaya Gorakhpur University, founded in 1957, is the first university in Uttar Pradesh to emerge as a leading higher-studies centre after Independence. The DDU. Gorakhpur University Campus is a Green Campus. Most of the plants vegetations are found in the campus. A Botanical Garden is also situated in the campus under Development of Botany. D.D.U. has earned an A++ accreditation from NAAC for its relentless pursuit of its motto, “Let the noble thoughts come to us from all directions,” which reflects its openness to diverse perspectives, cultures, and values in its academic and organizational spheres.Gorakhpur is located at the basin of the rivers Rapti and Rohiniin Uttar Pradesh, India’s northeast region, close to the Nepali border. Its latitudes are 26° 13’ N and 27° 29’ N, and its longitudes are 83° 05’E and 83° 56’ E.

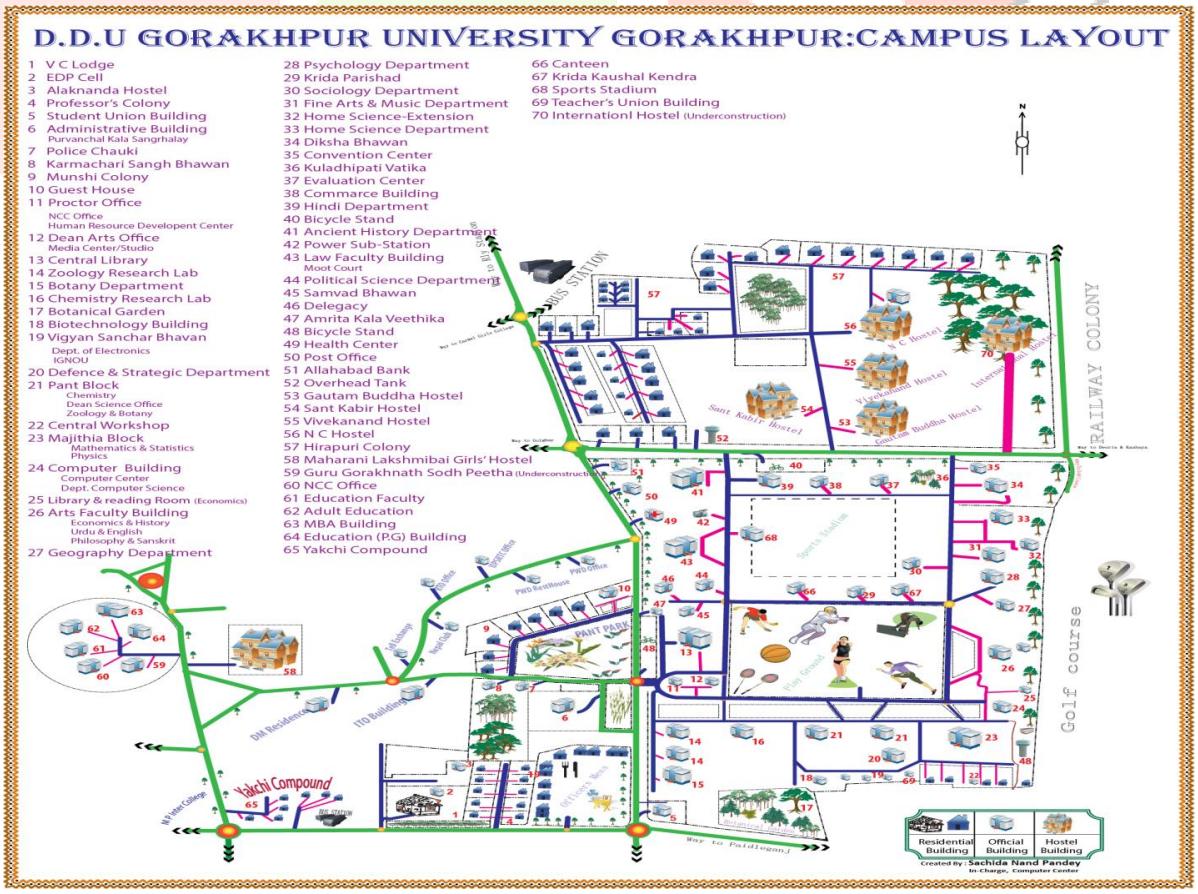

Figure 1. -Map of D.D.U. Gorakhpur University Campus.(ddugu.ac.in)

Survey and Study of Macrofungi

Macrofungi survey was carried out periodically at Deen Dayal Upadhyaya Gorakhpur University Campus during 2019-2021. The observation is done in rainy season (July to Oct.). Field survey were done oSSn different places of the University Campus usually visit 3-4 times in per months. Sample were firstly observed and photographed in their natural habitat. Place and date of collection, habitats, nature of fungi are noted in the field diary with their particular collection numbers was given to each specimen. Sample were collected for further studies. Specimenwere identified with the help of relevant Literatures, Research paper, Guide book and confirmed by Mycokeys. The Specimens are then submitted at the Plant Pathology Laboratory, Department of Botany, Deen Dayal Upadhyaya Gorakhpur University, Gorakhpur, Uttar Pradesh, India.

Data Analysis

A variety of substrata were found to be associated with the mushrooms. For the purpose of documenting the biodiversity of mushrooms, data on temperature, pH, moisture content, and vegetation were recorded. It was also noted how mushrooms were distributed over the area. The following formulas have been used to determine the frequency and density of various species. (Zoberi, 1973).

$$\textbf{Frequency of fungal species (\%)} = \frac{\textbf{No. of site which the species is present}}{\textbf{Total No. of sites}} \times 100$$

$$\textbf{Density (\%)} = \frac{\textbf{Total no. of individual of a particular species}}{\textbf{Total no. of species}} \times 100$$

Observations

In present survey a total of 78 Species of macrofungi belonging to 55 Genera of 36 Families were observed and identified. The description of collected macrofungi are mentioned **Family**, **Common Name**, **Nature**, **Grow on**, **Locality**, **Edibility Status**, **Features**, **Date of Collection**, **Collection No.**, are given below with their photographs.

Diversity of Macrofungi in D. D. U. Gorakhpur University Campus

Family – Agaricaceae

1. ***Agaricus arvensis*** **Schaeffe.**

Common Name Horse mushroom, Nature Saprotrophic, Grow on Grassy area, Locality DDUGU, Edibility Edible, Cap 5-12 cm. white and smooth, Gills firstly light pink to white and later grey-brown to chochlate, Stalk 4-8 cm. long, Date of Collection - 12/08/2021, Collection No. – DDUPPL068.

2. ***Agaricus sylvicola*** **(Vittad.) Peck.**

Common Name Wood Mushroom, Nature Saprobic, Grow on Soil, Locality DDUGU, Edibility Edible, Cap 6-14 cm.,white spherical at first, convex later, and finally flatten completely at mature. At first completely white, the crowns eventually turn yellow. When completely grown, Gills free, initially white, turn grayish-pink and finally chocolate brown. Stem 5-8 cm tall, 1-1.5 cm in diameter, and has a small bulb at the base, initially white and eventually turns yellow-grey later, Date of Collection – 23/10/2019 , Collection No. – DDUPPL037.

3. ***Chlorophyllum esculentum*** **Massee.**

Common Name Shaggy parasol, Nature Saprotrophic, Grow on Soil, Locality DDUGU, Edibility Inedible, Cap 5-15 cm. whitish with brown scales, Stipe 5-10 cm. long brownish thick smooth whitish at base and apex, Gills white or cream, Date of Collection – 20/09/2019, Collection No. – DDUPPL023.

4. ***Chlorophyllum hortense*** **(Murrill.) Vellinga**

Nature Saprobic, Grow on Soil , Locality DDUGU, Edibility Not known, Cap 8-10 cm. wide, initially convex before expending, surface white dirty yellowish, centre disc light brown and covered with light brown woolly scales, cap margin rounded, thick, Stem 5-7 cm. tall 7-10 mm. wide, smooth, white, around the ring, Gills free,

crowded, white, unchanging, slightly bulge in middle. Date of Collection – 09/08/2019, Collection No. – DDUPPL002.

5. ***Chlorophyllum molybdites*** **(G. May.) Massee**

Common Name False parasol, Nature Saprobic, Grow on Soil , Locality DDUGU, Edibility Inedible, Cap 5-10 cm. white with brown scales,Stem slender white, Stalk around the ring, Stipe ranges 5-8 cm. Gills white or cream at first and greenish to grey later, Date of Collection – 03/08/2019, Collection No. – DDUPPL001.

6. ***Coprinus comatus*** **(O.F. Mull.) Pers.**

Nature Saprobic, Grow on Soil, Locality DDUGU, Edibility Edible, Cap 3–15 cm; whitish with a brownish center; huge, shaggy scales; when young, oval to rounded-cylindrical, expanding to bell-shaped with a rising border; as it ages, turning to black "ink"; margin lined. Gills Unattached to the stem; white at first, become pinkish-black, then turning to black "ink"; densely packed. Stem smooth, white, easily separated from cap; 5–20 cm long; 1-2 cm thick; often tapering to apex; hollow, with a string-like thread of fibers hanging inside. Flesh Soft, white all throughout., Date of Collection – 11/10/2019, Collection No. – DDUPPL032.

7. ***Cytoderma amianthinum*** **(Scop.) Fayod.**

Common Name Saffron parasol, Nature Saprotophic, Grow on Mossy soil , Locality DDUGU, Edibility Not Edible, Cap 2-5 cm. bell-shape Stem 3-5 cm.long cylindrical granular sheath powdery ring, Gills firstly white and creamy later, Flesh thin and yellowish, Date of Collection – 27/09/2019, Collection No. – DDUPPL027.

8. ***Lepiota cristata*** **(Bolton) P. Kumm.**

Common Name Stinking dapperling, Nature Saprobic, Grow on Soil, Locality DDUGU, Edibility inedible , Cap 2-6 cm. convex, white, at the center purple brownish color, Stem 3-7 cm. long thick whitish and later pinkish to brownish, Gills white or cream free from stem, Flesh whitish and thin, Date of Collection – 17/08/2019, Collection No. – DDUPPL009.

9. ***Lepiota erminea*** **(Fr.) P. Kumm.**

Common Name Dune Dapperling, Nature Saprobic, Grow on Soil, Locality DDUGU, Edibility Not Known, Cap 3-6 cm. convex, Gills narrow close frequent creamy, Stem 4-7 cm. long whitish with filmsy ring, Flesh white, Date of Collection – 06/09/2019 , Collection No. – DDUPPL018.

10. ***Lepiota feline*** **(Pers.) P. Karst.**

Common Name Cat Dapperling, Nature Saprobic, Grow on Soil , Locality DDUGU, Edibility inedible, Cap 2-5 cm. convex flate slight umbo white with dark brownish concentric ring and scales, Gills free white or cream and dark later, Stem 2-4 cm long whitish creamy brownish, Date of Collection – 14/09/2019, Collection No. – DDUPPL021.

11. ***Lepiota haemorrhagica*** **Cleland.**

Nature Saprobic, Grow on Soil at litter of bamboo , Locality DDUGU, Edibility Inedible, Cap 2-6 cm. convex redish brown squamules, Stipe 4-5 cm long cylindrical squamulose with fungacious ring, Gills free from stem white croweded, Flesh white but most parts turns blood red on bruising, Date of Collection – 22/07/2021, Collection No. – DDUPPL062.

12. ***Leucoagaricus gujratensis***

Nature Saprophytic, Grow on Soil, Locality DDUGU, Edibility Not known, Cap 4-8 cm. wide white, convex, circular, flat, surface is lined with scattered brown scales, center yellowish brown, Gills free adnexed, distant, white to yellowish creamy, Stipe 6-8 cm. long, white to yellowish creamy, smooth, shiny, sub-bulbus annululs present, Date of Collection – 09/08/2019, Collection No. – DDUPPL004.

13. ***Leucoagaricus rubrotinctus***

Nature Saprobic, Grow on Soil, Locality DDUGU, Edibility Inedible, Cap 3-6 cm; squarish to egg-shaped at first darker center; later convex shallow central hump, or almost flat; dry; radial fibrils and scales over whitish to pale tan or oranges ground, center that is still darker. Margin not lined, but splits with ages. Gills free from stem; close; sporadic short gills; soft; white. Stem 3–10 cm long, 0.5–1 cm thick, mostly equal, or club-shaped base; bald; dry; white ring on top of stem turns oranges brown to reddish brown at edge; Flesh white, Date of Collection – 23/08/2019 , Collection No. – DDUPPL012.

14. ***Leucocoprinus cepistipes*** **(Sow.:Fr.) Pat.**

Nature Saprobic, Grow on Soil, Locality DDUGU, Edibility Not Known, Cap 3-9 cm. initially round or egg-shaped become convex with central hump soft dry flat powdery , whitish to pale brownish, Gills free from stipe close or crowded white become pinkish to slightly brownish at later, Stem 6-9 cm. long 4-10 mm. thick

swollen at bottom white discolor and bruising yellowish become pinkish to brownish bracelet-like white ring mycelium attached to whitish rhizomorphs, Flesh very thin whitish, Date of Collection –27/09/2019, Collection No. – DDUPPL026.

15. ***Leucocoprinus cretaceous*** **(Bull.) Locq.**

Nature Saprobic, Grow on Litter , Locality DDUGU, Edibility Not known, Cap 2-8 cm. circular or subcylendric and blocky at young white with small wart-like scale, Gills freem from stem white short frequent, Stem 3-8 cm long white attached to rhizomorphs, Flesh white, Date of Collection – 28/07/2020, Collection No. – DDUPPL048.

16. ***Macrolepiota procera*** **(Scop.) Singer**

Nature Saprobic, Grow on Soil, Locality DDUGU, Edibility Edible as choice, Cap 10-25 cm, initially spherical and pale brown, darker brown scales, flat, little center hump called an umbo. Gills wide, dense, free and end at a distance from stipe. White or pale cream in color. Stem rich up to 30 cm. tall 1-2 cm. wide, doubly-edged ring, smooth, white or cream with brown scales gives banded to stem, snakeskin-like looking, stem bulbous at base and taper slightly towards the apex. Flesh rough, white, fibrous, loosely packed, , Date of Collection – 23/10/2019, Collection No. – DDUPPL036.

17. ***Xanthagaricus flavosquamosus*** **T.H. Li, Iqbal Hosen & Z.P. Song.**

Nature Saprobic, Grow on Soil, Locality DDUGU, Edibility Not known, Cap 8-13 mm. across, initially hemispherical to convex, become plano-convex to applanate with age, yellow to vivid yellow, at center yellow-brown to gryish-brown, dense and darker, Gills free toward the stem, yellowish white to light pinkish white, margin crenulate, Stipe 20-30 mm. long 1.5-2 mm. wide, slightly curved, central, cylindrical, pale yellow to grayish yellow, fistulose, scale on surface, with white tuft at base , Date of Collection – 28/07/2020, Collection No. – DDUPPL046.

Family – Amanitaceae

18. ***Amanita phalloides*** **(Vaill. ex Fr.) Link.**

Common Name Death Cap Mushroom, Nature Mycorrhizal, Grow on Soil , Locality DDUGU, Edibility Poisonous, Cap 3-15 cm across, Stem 5-12.5 cm white, Gills free and quite crowded, Flesh white with a yellow tinge cap, Date of Collection –29/08/2019, Collection No. – DDUPPL016.

19. ***Amanita virosa*** **(Fr.) Bertill.**

Common Name Destroying Angle Nature Saprobic, Grow on Soil, Locality DDUGU, Edibility Poisonous, Cap is 5-15 cm across, Stem is 9-12 cm and grows from a fairly large volval bag , Gills are pure white , Flesh is white and the smell is slightly sickly. Date of Collection – 05/10/2019, Collection No. – DDUPPL029.

Family - Auriculariaceae

20. ***Auriculaia auricular-judae*** **(Bull.) Quel.**

Nature Saprobic or Parasite, Grow on Decaying wood, Locality – DDUGU, Edibility Edible, Fruiting body is 2-7 cm across with Jelly-like texture and ear-shaped appearance, it is very soft, elastic and rubbery rather than brittle, Color is at very young and fresh are quite pale and with age purple-brownish, Date of Collection – 09/07/2021, Collection No. – DDUPPL060.

21. ***Auriculaia auricular spp.***

Nature Saprobic or Parasite, Grow on Decaying wood, Locality DDUGU, Edibility Edible, Fruiting body is 2-5 cm soft and Jelly like look, Color is purplish-brown, Date of Collection - 09/07/2021, Collection No. – DDUPPL061.

Family – Bolbitiaceae

22. ***Panaeolus olivaceus*** **F. H. Moller.**

Nature Saprotropic, Grow on Grassy area, Locality DDUGU, Edibility Psychoactive, Cap 1-4 cm. compactulate dark grayish to dark cinnamon, Gills adnate to adnexed, Stipe 4-7 cm. long circular hollow slightly striate grayish, Date of Collection – 16/08/2021, Collection No. – DDUPPL072.

Family – Cantharellaceae

23. ***Cantharellus cibarius*** **Fr.**

Nature Saprobic, Grow on Decaying wood Locality DDUGU, Edibility Edible, Cap 2-12 cm across , Stem 3 - 8 cm too solid and tapered towards the base are irregular and run down , Gills blunt, narrow and yelleow in color, yellowish flesh has a lovely faint fragrance of apricots ,Color is very pale to deep yellow, Date of Collection – 08/10/2021, Collection No. – DDUPPL78.

Family – Coniophoraceae

24. ***Coniophora puteana*** **(Schumach.:Fr.) P. Karst.**

Common Name Wet Rot or Cellar fungi, Nature Parasitic, Grow on Dead wood, Locality DDUGU, Edibility Inedible, Fruiting bodies corticioid in patches form, up to 2 mm thik, surface smooth to rough, olivaceous brown, margin whitish, often extensive patches, Date of Collection – 08/09/2020, Collection No. – DDUPPL053.

Family – Coprinaceae

25. ***Coprinus lagopus*** **(Fr.) Fr.**

Common Name Hare's foot Inkcap, Nature Saprobic, Grow on Humus rich soil, Locality DDUGU, Edibility Inedible, Cap 1-3 cm. ovate, Gills adnexed or free and croweded, Stem 4-10 cm. long 3-6mm.in diameter white with ephemeral scales no rings, Date of Collection –11/07/2020, Collection No. – DDUPPL042.

26. ***Coprinus micaceus*** **(Bull.: Fr.) Vilgalys, Hopple & Jacq. Johnson**

Common Name Mica cap, Nature Saprobic, Grow on Rooting of wood in clustures, Locality DDUGU, Edibility Edible, Cap oval or bell shaped to convex up to 3 cm in diameter with fine radial grooves, Stipes white upto 10 cm long, Gills white after collection turns into black inky, Date of Collection – 08/10/2021, Collection No. – DDUPPL076.

Family – Dacrymycetaceae

27. ***Dacrymyces chrysospermus*** **(Bull.) Tul.**

Common Name Orange jelly, Nature Saprotrophic, Grow on Dead wood, Locality DDUGU, Edibility Edible, Fruiting body (Basidiocarps) bright orange gelatinous in various shaped, frequently grow in groups, form a complex masses up to 6 cm. acrosa, Date of Collection –25/08/2021, Collection No. – DDUPPL073.

Family – Dictydiamataceae

28. ***Dictydiaethalium plumbeum*** **(Schumach.) Rotaf.**

Nature Saprobic, Grow on Dead wood, Locality DDUGU, Edibility Inedible, Fruiting body a psudoaethalium in various color brown to grey, densely compacted into a flate palisade-like layer, Aethalium flattened upto 10 cm. and thik , Date of Collection – 29/08/2020, Collection No. – DDUPPL052.

Family –Entolomataceae

29. ***Colitopilus prunulus*** **(Scop.) P. Kumm.**

Common Name The Miller or Sweetbread mushroom, Nature Saprobic, Grow on Soil, Locality DDUGU, Edibility Edible as choice, Cap 5-12 cm. white-grey with tints irregular convex, Gills initially white later pink deeply decurrent, Stem 2-3 cm. solid cylindrical, Flash fairy firm white, Date of Collection –17/08/2019, Collection No. – DDUPPL005.

Family –Ganodermataceae

30. ***Ganoderma lucidium*** **(Curtis) P. Karst.**

Common Name Lacquered bracket, Nature Saprobic, Grow on Dead wood, Locality DDUGU, Edibility Edible & medicinal, Cap up to 20 cm. fan or kidney shaped grooves yellow orange red purplish, Stem up to 15 cm. length redish-brown attached to cap, Tubes initially white later ochraceous 5- 20 mm. deep 4-6 pores per mm., Pores small circular white at young later brown, Date of Collection – 16/08/2021, Collection No. – DDUPPL070.

31. ***Ganoderma tsugae*** **Murrill**

Common Name Hemlock varnish shelf, Nature Saprobic, Grow on Soil, Locality DDUGU, Edibility Inedible, Cap 4-15 cm. fan or kidney shaped surface shiny roughly arranged dark red to redish-brown, Stem 3-12 cm. long shiny varineshed color somthink dark to cap, Pores first whitish later reddish brown round pore 4-6 per mm., Date of Collection – 06/09/2019, Collection No. – DDUPPL020.

32. ***Ganoderma spp.*** **P. Karst.**

Common Name Reishi mushroom, Nature Saprobic, Grow on Dead wood, Locality DDUGU, Edibility Edible & medicinal, Cap up to 15 cm. fan or kidney shaped, color ranges reddidh to brown or chocklate, Date of Collection – 22/07/2021, Collection No. – DDUPPL064.

Family – Hericiaceae

33. ***Dentipillis fragilis*** **(Pers.: Fr.) Donk.**

Nature Saprobic, Grow on Wood, Locality DDUGU, Edibility Not known, Fruiting body widely effused loosely adherent, Hymenophore up to 6 mm. long 0.1-1.3 mm.wide, strongly, hydnoid, smooth, slender, concrescent, wide at base, apex intire , acute, Subiculum up to 0.5 mm. thick , whitish cream, soft, Margin , Date of Collection – 10/10/2020, Collection No. – DDUPPL059.

Family – Hydnangiaceae

34. ***Laccaria amesthystina*** **(Bull. ex Mérat) Murr.**

Common Name Amethyst Deceiver, Nature Saprobic, Grow on Soil, Locality DDUGU, Edibility Edible, Fruiting body small to medium; Cap convex, plano- convex, become applanate, margin wavy, deep purplish, finaly turns in to pale purplish grey, even more fading with age, surface rough, radially striate ; Gills adnexed,purplish, distant; Stem terete, concolorous with the cap, Date of Collection –23/09/2019, Collection No. - DDUPPL010.

Family – Hygrophoraceae

35. ***Lichenomphalia umbellifera*** **(L.) Redhead, Lutzoni, Moncalvo & Vilgalys**

Common Name Green pea mushroom lichen, Nature Saprobic, Grow on Rotting wood , Locality DDUGU, Edibility Inedible, Fruiting body white to yellowish, Cap up to 3 cm., Stalk 1-3 cm. long and 1-3 mm. wide , Date of Collection – 06/09/2019, Collection No. - DDUPPL019.

Family – Hymengastraceae

36. ***Gymnopilus ferruginosus*** **B.J. Rees.**

Nature Saprotrophic , Grow on Rotted log , Locality DDUGU, Edibility Inedible, Cap upto 70 mm. convex golden brown with dark fibrillose margin pale yellow, Gills first creamy later dull gold, Stem brownish orange no ring, Date of Collection –17/08/2019, Collection No. – DDUPPL007.

Family – Hypoxylaceae

37. ***Hypoxylon crocopeplum*** **Berk. & M. A. Curtis.**

Nature Saprobic, Grow on Dead wood, Locality DDUGU, Edibility Inedible, Discription - The irregularly elongate stroma is effused to more rarely pulvinate, measuring 4-50 mm long by 3-20 mm broad by 0.9-1 mm thick. When immature, it has inconspicuous perithecial mounds and a yellow effused margin. The surface is initially pale fulvous, apricot, and sienna, but eventually turns dull bay to sepia with a greyish tone because of a whitish film;. Ovoid to somewhat tubular perithecia, more rounded at the stroma's edge, measuring 0.45–0.6 mm in height and 0.25-0.35 mm in diameter. empty perithecia is visible. , Date of Collection – 10/10/2020, Collection No. - DDUPPL057.

Family –Inocybaceae

38. ***Inocybe iacera*** **(Fr.) P. Kumm.**

Common Name Torn Fibrecap, Nature Saprobic, Grow on Soil, Locality DDUGU, Edibility Poisonous, Cap 1-3 with small umbo margin of cap inwards, fibrillose snuff-brown scales, Stipe 2-3 cm long 3-6 mm. thick no ring, Gills adnexed white at first later clay-buff with white edges, Date of Collection – 11/10/2019, Collection No. - DDUPPL031.

39. ***Crepidotus variabilis*** **(Pers.) P. Kumm.**

Nature Saprobic, Grow on Decaying wood, Locality DDUGU, Edibility Inedible, Cap 0.5-2 radiate wide, slightly lobed, firstly white later creamy-ochre, fruiting body attached to its substratew with small twigs, Gills initially white become yellow-brown or buff, from point of attachment, Stipe absent, Date of Collection – 12/08/2021, Collection No. - DDUPPL065.

Family –Lentinaceae

40. ***Lentinus squarrosulus*** **Mont.**

Nature Saprobic, Grow on Decaying wood, Locality DDUGU, Edibility Edible, Cap 30-40 mm. wide, funnel-shaped, firstly white then pale brown later completely pale brownish, light yellowish brown concentric zone, on surface squarrose scale found, smooth margin, in curved, Gills decurrent, smooth edges, close to crowded, white to pale brown, Stem 20-40 mm. long 5-10 mm. wide, smooth, white to light brown, cyndrical to broad at base, Date of Collection – 08/09/2020, Collection No. - DDUPPL054.

Family –Lyophyllaceae

41. ***Calocybe gambosa*** **(Fr.) Donk.**

Common Name St George's mushroom, Nature Saprobic, Grow on Grassy location, Locality DDUGU, Edibility Edible, Cap is 5-8 cm, Stem is 5-10 cm and white, Gills are narrow and crowded, Flesh is white and soft, Color is white to creamy yellow, Date of Collection – 25/08/2021, Collection No. - DDUPPL075.

42. ***Hypsizygus tessulatus*** **(Bull.) Singer**

Common Name Beech mushroom, Nature Saprobic, Grow on Fertilizer of cow dung, Locality DDUGU, Edibility Edible, Cap 4-6 cm. convex white to buff , Gills attached but not decurrent first whitish later cream, Stipe 3-5 cm. long thick whitish smooth dry, Flesh firm, Date of Collection – 14/09/2019, Collection No. - DDUPPL022.

Family - Marameaceae

43. ***Marasmius androsaceus*** **(L.) Fr.**

Nature Saprobic, Grow on Litter, Locality DDUGU, Edibility Not known, Cap 4-11 mm. convex dry pinkish brown to reddish brown, Gills attached to stem with shot gills pinkish brown, Stem 2-7 cm. long 1mm. thick dry wiry dark reddish brown to black rhizomorph attached to the base, Flesh pale brownish insubstantial, Date of Collection – 29/08/2019, Collection No. – DDUPPL017.

44. ***Marasmius bulliandii*** **Quel.**

Nature Saprobic, Grow on Leaf, Locality DDUGU, Edibility Inedible, Cap 1-10mm. diameter paraculate-shaped cap white to pale cream tinged with buff, Gills connect to collar around the cap stem, Stem 2-6 cm. long conocolorous with yjr cap no ring, Date of Collection –11/10/2019, Collection No. - DDUPPL034.

45. ***Marasmius capillaries*** **Morgan.**

Nature Saprobic, Grow on Dead wood, Locality DDUGU, Edibility Inedible, Cap 2-15 mm. convex pleated with central depression dry smooth velvety whitish or pale grayish brown, Gills whitish distant attached to tiny collar circles the stem, Stem up to 60 mm. long less than 1 mm. thick shiny dry wiry dark brown to black, Date of Collection –11/10/2019, Collection No. - DDUPPL035.

46. ***Marasmius siccus***

Nature Saprobic, Grow on Leaf litter, Locality DDUGU, Edibility Inedible, Cap 5-30 mm; bald, smooth, minutely roughened, bell or cushion-shaped, with a knob or center depression; noticeably pleated; fresh orange, fading to pale orange. Gills White to pale yellowish; extremely far away; attached to the stem or free from it. Stem bald, pale or yellowish top, brown at base; equal, wiry, 2.5–6.5 cm long, 1 mm thick, and white basal mycelium.Flesh Slender, without bulk., Date of Collection – 05/10/2019, Collection No. - DDUPPL030.

47. ***Marasmius vagus*** **Guard, M.D. Barrett & Farid, sp. nov.**

Common Name The Wandering Creamsicle, Nature Saprotrophic, Grow on Litter, Locality DDUGU, Edibility Edible as choice, Cap 12-20 mm. diameter smooth fistly dome-shaped become as flat color ranges apicort to pale orange, Gills white free from stipe shallow connections between the gills at maturity, Stipe 30-60 mm. long 3-5 mm. thick attach to bottom of cap in center texture cartilaginous white to cream color, Date of Collection – 20/09/2019, Collection No. - DDUPPL025.

48. ***Tetrapyrgos nigripes*** **(Fr.) E. Horak**

Nature Saprobic, Grow on Leaf litter, Locality DDUGU, Edibility , Cap 0.5-2 cm. convex become flat white bold or dusted become slightly wrinkled, Gills attached to stem with cross veins white, Stem 2-5 cm. long 2mm. thick whitish straight tough dry inserted directly into substrate, Flesh whitish thin a little rubbery, Date of Collection –17/08/2019, Collection No. – DDUPPL006.

Family – Meruliaceae

49. ***Flavodon flavus*** **(Klotzsch) Ryvarden.**

Nature Saprobic, Grow on Decaying wood, Locality DDUGU, Edibility Not known, Fruiting body applanate annual sessile completely resupinate, Pileus upto 3 cm. radius margin obtuse to subacute pale yelloyish white saculate , Hymenium in redical raws yellow to fulvous cinnamon dentate lamellae, Spine up to 3 mm. long, Flesh up to 3 mm. thick , Date of Collection – 28/07/2020, Collection No. – DDUPPL047.

Family – Omphalotaceae

50. ***Gymnopus iocephalus*** **(Berk. & M.A. Curtis) Halling.**

Nature Saprobic, Grow on , Locality DDUGU, Edibility Not known, Cap 1-2 cm. convex initially incurved margin later flat with unlifted wavy margin dry or moist purple at young later grayish, Gills narrowly attached to stem at maturity free from it reddish purple close or distant, Stem 2-5 cm. long 1-3 mm. thick dry traping to apex velvety with whitish fuzz purplish- grayish or yelloyish lilac, Flesh thin pale lilac, Date of Collection – 23/08/2019, Collection No. – DDUPPL013.

51. ***Marasmiellus ramealis*** **(Bull.) Singer**

Nature Saprobic, Grow on Decaying wood, Locality DDUGU, Edibility Edible, Cap 0.3-1.5 cm. convex at first later flat white or pale cream radially wrinkled at margin, Gills pinkish-white later ochre distnate narrow adnate, Stem 0.5-2 cm. long 1mm. diameter upper concolorous to cap later darker brown to base delicate no ring slightly scurfy, Date of Collection – 10/10/2020, Collection No. - DDUPPL058.

Family – Pleurotaceae

52. ***Plerotus pulmonarius*** **(Fr.) Quel.**

Common Name Indian Oyster, Nature Saprobic, Grow on Dead wood, Locality DDUGU, Edibility Edible, Cap 3-10 cm. convex flat or dispressed lung or fan shaped wavy margin whitish or pale creamish, Gills down to stem short gills close or distant whitish sometimes yellowish at later, Stem 1-4 cm. long 0.5- 1 cm. thick sometimes rudimentary or absent whitish bold lateral or central or eccentric basal mycelium white, Flesh white thick, Date of Collection –16/08/2021, Collection No. - DDUPPL069.

Family – Pluteaceae

53. ***Pluteus cervinus*** **(Schaeff.) P. Kumm.**

Common Name Deer Shield or Deer Mushroom, Nature Saprotrophic, Grow on Wood waste, Locality DDUGU, Edibility Edible, Cap 3-12 cm diameter at beganing bell-shaped wrinkled at young and later flate convex shape color deer-brown center darker surface smooth silky-reflective dark radial fibres, Gills firstly white later pinkish, Stipe 5-10 cm. long 0.5- 2 cm. in wide thik at base white with brown vertical fibres, Flesh white shoft, Date of Collection – 27/09/2019, Collection No. – DDUPPL028.

54. ***Pluteus salicinus*** **(Pers.) P. Kumm.**

Nature Saprotrophic, Grow on Soil, Locality DDUGU, Edibility Psychoactive or Edible, Cap 2-8 cm. diameter convex to flat smooth silver-grey to brownish-grey with greenish tint at later tiny scales at center unlined cap margin, Gills initially white later pink-flesh edges discolor or grayish free broad crowded, Stipe 3-5 cm. long 0.2-0.6 cm. thick no ring white flesh grayish- green to bluish-green tone at base, Flesh thin to moderate white with grayish tinge, Date of Collection –27/09/2019, Collection No. – DDUPPL003.

Family – Podoschyphaceae

55. ***Podoschypha petalodes*** **(Berk.) Boidin.**

Nature Saprobic, Grow on Dead wood, Locality DDUGU, Edibility Edible, Fruitng body 3-7 cm. smooth, soft, flower petal-like, light brown to orange brown with concentric zone, margin wavy and smooth, frequently branched and clumped, Stipe 1-2 cm long light brownish, Date of Collection – 08/10/2021, Collection No. - DDUPPL077.

Family – Polyporaceae

56. ***Aurantiporus pulcherrimus*** **(Rodway) G. Cunn.**

Common Name Strawberry bracket, Nature Parasitic , Grow on Tree , Locality DDUGU, Edibility Inedible, Fruiting body bracket-shaped, Cap 3-8 cm. diameter sessile stipe absent direct attached to substrate newly red or salmon later brownish at dries surface hairy at attachment point, Pores 1-3 per mm. red on underside the cup, Flesh red watery soft and thick, Date of Collection – 29 /09/2019, Collection No. – DDUPPL014.

57. ***Datronia mollis*** **(Sommerf.) Donk.**

Nature Parasitic or saprobic, Grow on Dead wood , Locality DDUGU, Edibility Inedible, Fruiting body sessile hardly attached to substrate , Upper surface brown or blackish, Tubes 0.5-5mm. long, Pores 1-3 per mm. slot-like irregularly elongated or grayish due to whitish bloom disappears on handling leaving the pore surface yellowish- brown or umber, Date of Collection – 16/08/2021, Collection No. - DDUPPL071.

58. ***Earliella scabrosa*** **(Pers.) Gilb. & Ryvarden.**

Nature saprobic, Grow on Dead wood, Locality DDUGU, Edibility Inedible, Fruiting body Basidiocarp 2-4 cm. long 3-9 cm. wide, upper surface red maroon, margin white, grooved concentric, clustered or solitary, effused-reflexed and resupinate, lower surface yelloyish-white, reddish cuticle, Pores elongated, irregular, Date of Collection – 08/09/2020, Collection No. - DDUPPL055.

59. ***Trametes gibbosa*** **(Pers.) Fr.**

Common Name Lumpy Bracket, Nature Saprobic, Grow on Decaying wood , Locality DDUGU, Edibility Inedible, Fruiting body is leathery usually 5 to 20 cm across. Semicircular as brackets but circular as a fan on top of stump. Color white with reddish tinge that appears at rim. 1 to 6 cm. thick. Young have rounded borders and downy upper surface, at mature upper surface loses down and is covered with green algae, Margins become more pointed. Tubes 3 to 15 mm deep and spaced 0.5-1 mm light grey end in irregular, elongated, maze-like holes are cream in the beginning and turn ochre with age. Date of Collection – 08/08/2020, Collection No. - DDUPPL050.

60. ***Trametes suaveolens*** **(L.) Fr.**

Common Name Fragrant Bracket, Nature Saprobic, Grow on Decaying wood , Locality DDUGU, Edibility Inedible, Bracket is unique, surface is creamy-white or light gray, highly downy, Upper surface stained with green algae. Brackets 6 to 12 cm broad rounder beginnings, but later on edges fertile (upper) and infertile (lower) surfaces meet sharpen. Flesh is quite tough. Stem absent, Tubes white, 10-15 mm deep tubes end in rounded or elongated white, buff, or pale grey-yellow. Pores spaced 0.5-1 mm apart. Date of Collection – 25/09/2019, Collection No. - DDUPPL056.

61. ***Trametes versicolor*** **(L.) Pilat.**

Common name Turkey tail, Nature Saprobic, Grow on Dead wood , Locality DDUGU, Edibility Edible & medicinal, Cap 2-8 cm. 1-4 cm. deep 1-2 mm. thick bracket fan or kidney shaped plano-convex to flat concentric zone of cap varies in different shades white grey brown cinnamon orangish reddish brown sometimes with other colors like green orange blue, Pores 3-6 or many pores per mm. surface white to brownish, Tubes up to 1.5 mm. deep, Flesh whitish tough and leathery insubstantial, Date of Collection – 12/08/2021, Collection No. - DDUPPL066.

62. ***Favolus spp.*** **Fr.**

Nature Saprotrophic , Grow on Dead wood , Locality DDUGU, Edibility Edible, Fruiting body Pileus are white nearly transparent, glabrous, 5.5 cm wide, Pores are angular to elongated, white to creamy, Stipe - short, Cylindrical, whit 0.7 cm long and 0.6 cm wide, Date of Collection –22/07/2021, Collection No. - DDUPPL063.

Family –Psathyrellaceae

63. ***Caprinellus domesticus*** **(Bolton) Vilgalys,Hopple & Jacq. Johnson**

Common Name Firerug inky cap, Nature Saprobic, Grow on Decaying wood log, Locality DDUGU, Edibility Not known, Cap 3-7 cm. firstly oval then convex later bell-shaped with lined margin honey-ochre centre slightly darker, whitish to pale brown sand-like veil fragment, turns grey with age not deliquescing, Gills free or adnexed, creamy white become grey later blackish and deliquescing, Stem 4-10 cm. tall 0.4-1 cm wide hollow white smooth silky, with a slightly swollen base, ring absent, Date of Collection – 29/08/2020, Collection No. - DDUPPL051.

64. ***Caprinopsis lagopus*** **(Fries.) Redhead.**

Nature Saprotrophic, Grow on Soil, Locality DDUGU, Edibility Not known, Cap 3-6 cm curved margin white hairs universal veil remnants soft erect pale grey greyish-brown, Gills free narrow close white to grayish later black deliquescing in moist weather, Stipe 5-10 cm. long 0.3-0.5 cm thick hollow fragile dry surface partial veil lack or evanescent, white tomentose from universal veil remnants , Date of Collection – 11/07/2020, Collection No. - DDUPPL041.

65. ***Caprinopsis stercorea*** **(Fries) Redhead, Vilgalys & Moncalvo**

Nature Saprobic, Grow on Soil, Locality DDUGU, Edibility Not clear, Cap 4-10 mm. surface white to pale grey, Gills subdistant adnexed narrow lamellulae up to 2 series pallid at young blackish with age, Stipe 1.0-3.5 cm. 0.5-1.0 mm. thick fragile hollow surface watery-white to pale-grey whitish hairs at young , Date of Collection – 23/10/2019, Collection No. - DDUPPL039.

66. ***Parasola conopilus*** **(Fr.) Orstadius & E. Larss.**

Common Name Conical Brittlestem, Nature Saprobic, Grow on Leaf & wood litter, Locality DDUGU, Edibility Inedible, Cap 2-3.5 cm. bell-shaped or conical margin finely striate shiny red brown at moist become matt grey- beige or ochre after drying, Stem 6-12 cm. long 2-4 mm. diameter white smooth silky vertical and straight no ring slightly down to base more powdery near the apex, Gills grayish brown with white edges converts most dark brown as age adnexed or adnate crowded, Date of Collection – 11/07/2020, Collection No. - DDUPPL043.

67. ***Parasola plicatilis*** **(Curtis.) Redhead et al.**

Common Name Pleted inkcap, Nature Saprobic , Grow on Grassy area , Locality DDUGU, Edibility Inedible, Cap 10-35 mm. first ovoid becomes convex or bell-shaped later flat deep grooved from margin to center at young yellowish to orangish brown becomes grey in grooves at lastly overall, Gills free from stem distant or close initially whitist becames dark grey and overall black, Stem 35-80 mm. long up to 2 mm. thick hollow fragile no ring white bald or very finely silky, Flesh whitish insubstantial, Date of Collection – 25/08/2021, Collection No. - DDUPPL074.

68. ***Psathyrella corrugis*** **(Pers.) Konrad & Maubl.**

Common Name Red Edge Brittlestem, Nature , Grow on Wood dust, Locality DDUGU, Edibility Inedible, Cap 1-4 cm. wide bell-shaped translucent at young flat becomes opaque with age, Gills slightly reddish , Stem 4-12 cm. long 1-3 mm. wide whitish, Date of Collection – 11/07/2020, Collection No. - DDUPPL044.

69. ***Psathyrella longipes*** **(Pers.) A.H. Sm.**

Common Name Tall Psathyrella, Nature Saprobic, Grow on Wood chips, Locality DDUGU, Edibility Inedible, Discription - Tiny brown mushrooms growing in a large, packed cluster on wood chips. Damp caps, brown, conical, with radial lines, up to 3 cm in diameter, with a white border. turned a paler shade of brown when the center of the caps dried.Adnate, brown-grey gills with reddish margins; around 20 met stems with multiple tiers of shorter intermediate gills. Stem 7 cm 3 mm, fuzzy filaments at base, hollow, brittle, silky off-white., Date of Collection – 11/10/19, Collection No. - DDUPPL033.

Family – Pterulaceae

70. ***Pterula subulata*** **Fr.**

Common Name Angel Hair Coral, Nature Saprophytic, Grow on Litter, Locality DDUGU, Edibility Inedible, Fruiting body 3-6 mm. thin repeatly branches hair-like coral tip smooth shiny pointed white to light brown tip are lighter than base, Stem 1-2 mm. sometimes absent, Flesh whitish, Date of Collection –05/10/2019, Collection No. – DDUPPL008.

Family – Rickenellaceae

71. ***Cotylidia diaphana*** **LentzSchwein.**

Nature Saprophytic, Grow on Dead wood, Locality DDUGU, Edibility Not known, Description – Fruiting body white to transparent, 3-6 cm. wide, wavy, fan-shaped to funnel-shaped, small to moderately sized. Stalk 2-4 cm light brownish. Date of Collection – 23/10/2019 , Collection No. - DDUPPL040.

Family – Russulaceae

72. ***Lactifluus piperatus*** **(L.) Roussel.**

Common Name Blancaccio, Nature Mycorrhizal, Grow on Fertilizer of cow dung, Locality DDUGU, Edibility Inedible, Pileus Creamy- white, smooth, dry, broadly convex, funnel shaped, glabrous, 4-15 cm in width, Gill white, attached to the stem, narrow, very crowded, forking frequently, Stipe - White, bare, smooth, solid, cylindrical, sometimes tapering towards base, 2-8 cm tall and 1-2.5 cm thick.(After dried the specimen looking orangish-brownish in color). Date of Collection – 20/09/2019, Collection No. - DDUPPL024.

Family – Schizophyllaceae

73. *Schizophyllum commune* Fr.

Common Name Slip Gill mushroom, Nature Saprobic, Grow on Wood of Mango tree , Locality DDUGU, Edibility Edible as choice, Cap 1-3 cm. across 0.3-1 cm. thick hairy white creamy or tinged purple fused with edges of adjacent caps, Gills hairy gill-like folds white to grey or pinkish grey lengthwise hair split, Stipe absent simply a narrow extension of cap, Date of Collection – 18/07/2020, Collection No. - DDUPPL045.

Family – Sparassidaceae

74. *Sparassis radicuta* (Wulfen) Fr.

Common Name Cauliflower fungi, Nature Saprotaophic, Grow on Decaying wood , Locality DDUGU, Edibility Edible as Choice, Sporocarp fruiting body up to 15 cm. broad, 30 cm. tall, leaf-like branches, wavy, white to pale yellow, up to age brach edges discolor brown, arises at root-like sterile base,Odor fragrant, Flase white, Hymenium flat surface of sporocarp , Date of Collection – 23/10/2019, Collection No. - DDUPPL038.

Family – Steccherianaceae

75. *Irpex lacteus* (Fr.) Fr.

Common Name Crust Fungus, Nature Saprobic, Grow on Decaying wood , Locality DDUGU, Edibility Inedible, Fruiting body sporocarp 6-12cm, Pores 2-3 pores per mm. spread on surface whitish to grayish, Flesh whitish thin and tough, Stipe absent, Date of Collection –29/08/2019, Collection No. – DDUPPL015.

Family – Stereaceae

76. *Stereum hirsutum* (Willd.)Pers.

Common Name False Turkey Tail, Nature Saprobic or parasitic, Grow on Decaying wood , Locality DDUGU, Edibility Inedible, Fruiting body 3-5 cm. across individually but fused together, fan-shaped, irregular or semicircular, concentric zone of texture and color varies ranges yellow to tan, brown, reddish brown or buff, lack of stem, Date of Collection – 08/08/2020, Collection No. - DDUPPL049.

Family – Strophariaceae

77. *Hebeloma crustuliniforme* (Bull.) Quel.

Common Name Poison pie, Nature Mycorrhizal, Grow on Decaying wood , Locality DDUGU, Edibility Poisonous, Cap 4-10 cm. diameter, whitish, convex, become umbonate, slightly dark in center, pale puff to ochre, greasy at wet, margin wavy or lobed, Gills white change into clay-brown with white edges, crowded, emarginated, Stipe 4-8 cm. tall 1-2 cm. wide, mealy towards the apex, white or pale yellow , Date of Collection –23/08/2019, Collection No. - DDUPPL011.

Family – Xylariaceae

78. *Daldinia concentric* (Bolton) Ces. & De Not.

Nature Saprobic, Grow on Decaying wood , Locality DDUGU, Edibility Inedible, Fruiting body stroma 2-8 cm. across, large compound outgrowth, firstly brown and dense later black and less dense, broad attached to fruiting body with host wood, spore briearing chamber structure called Perithecia, Date of Collection – 12/08/2021, Collection No. - DDUPPL067.

Figure 2. - List of Macrofungi - ***(1.)*** *Agaricus arvensis,* ***(2.)*** *Agaricus sylvicola,* ***(3.)*** *Chlorophyllum esculentum,* ***(4.)*** *Chlorophyllum hortense,* ***(5.)*** *Chlorophyllum molybdites,* ***(6.)*** *Coprinus comatus,* ***(7.)*** *Cytoderma amianthinum,* ***(8.)*** *Cytoderma amianthinum,* ***(9.)*** *Lepiota ermine,* ***(10.)*** *Lepiota feline,* ***(11.)*** *Lepiota haemorrhagica,* ***(12.)*** *Leucoagaricus gujratensis,* ***(13.)*** *Leucoagaricus rubrotinctus,* ***(14.)*** *Leucocoprinus cepistipes,* ***(15.)*** *Leucocoprinus cretaceous,* ***(16.)*** *Macrolepiota procera,****(17.)*** *Xanthagaricus flavosquamosus,* ***(18.)*** *Amanita phalloides,* ***(19.)*** *Amanita virosa,* ***(20.)*** *Auriculaia auricular-judae,* ***(21.)*** *Auriculaia auricular spp.,* ***(22.)*** *Panaeolus olivaceus,* ***(23.)*** *Cantharellus cibarius,* ***(24.)*** *Coniophora puteana,* ***(25.)*** *Coprinus lagopus,* ***(26.)*** *Coprinus micaceus,* ***(27.)*** *Dacrymyces chrysospermus,* ***(28.)*** *Dictydiaethalium plumbeum,* ***(29.)*** *Colitopilus prunulus,* ***(30.)*** *Ganoderma lucidium.*

Figure 3. - List of Macrofungi -, ***(31.)*** *Ganoderma tsugae,* ***(32.)*** *Ganoderma spp.,* ***(33.)****Dentipillis fragilis,* ***(34.)*** *Laccaria amesthystina,* ***(35.)*** *Lichenomphalia umbellifera,* ***(36.)*** *Gymnopilus ferruginosus,* ***(37.)*** *Hypoxylon crocopeplum,* ***(38.)*** *Inocybe iacera,* ***(39.)*** *Crepidotus variabilis,* ***(40.)*** *Lentinus squarrosulus,* ***(41.)*** *Calocybe gambosa,* ***(42.)*** *Hypsizygus tessulatus,* ***(43.)*** *Marasmius androsaceus,* ***(44.)*** *Marasmius bulliandii,* ***(45.)*** *Marasmius capillaries,* ***(46.)*** *Marasmius siccus,* ***(47.)*** *Marasmius vagus,* ***(48.)*** *Tetrapyrgos nigripes.* ***(49.)****Flavodon flavus,* ***(50.)*** *Gymnopus iocephalus,* ***(51.)*** *Marasmiellus ramealis,* ***(52.)*** *Plerotus pulmonarius,* ***(53.)*** *Pluteus cervinus,* ***(54.)*** *Pluteus salicinus,* ***(55.)*** *Podoschypha petalodes,* ***(56.)*** *Aurantiporus pulcherrimus,* ***(57.)*** *Datronia mollis,* ***(58.)*** *Earliella scabrosa,* ***(59.)*** *Trametes gibbosa,* ***(60.)*** *Trametes suaveolens.*

Figure 4. - List of Macrofungi – ***(61.)*** *Trametes versicolor,* ***(62.)*** *Favolus spp.,* ***(63.)*** *Caprinellus domesticus,* ***(64.)*** *Caprinopsis lagopus,* ***(65.)*** *Caprinopsis stercorea,* ***(66.)*** *Parasola conopilus,* ***(67.)*** *Parasola plicatilis,* ***(68.)*** *Psathyrella corrugis,* ***(69.)****Psathyrella longipes,* ***(70.)*** *Pterula subulata,* ***(71.)*** *Cotylidia diaphana,* ***(72.)*** *Lactifluus piperatus,* ***(73.)*** *Schizophyllum commune,* ***(74.)*** *Sparassis radicuta,* ***(75.)*** *Irpex lacteus,* ***(76.)*** *Stereum hirsutum,* ***(77.)*** *Hebeloma crustuliniforme,* ***(78.)*** *Daldinia concentric.*

Results and Discussion

In present study a total of more than 85 samples of macrofungi collected during the survey but only 78 Species of macrofungi belonging to 55 Genera of 36 Families were identified. The most dominant family are Agaricaceae having 17 species followed by Polyporaceae and Psathyrellaceae 7 species ; Marasmiaceae 6 species ; Ganodermataceae 3 species ; Amanitaceae, Auriculariaceae, Caprinaceae, Inocybaceae, Lycoperdaceae, Omphalotaceae and Pluteaceae havings 2 species ; and others families Bolbitiaceae, Cantharellaceae, Coniophoraceae, Dacrymycetaceae, Dictydiamataceae, Entolomataceae, Hericiaceae, Hydnangiaceae, Hygrophoraceae, Hymenogastraceae, Hypoxylaceae, Lentinaceae, Meruliaceae, Pleurotaceae, Podoscyphaceae, Pterulaceae, Rickenellaceae, Russulaceae, Schizophylaceae, Sparassidaceae, Steccherianaceae, Stereaceae, Strophariaceae, Xylariaceae having one species. Macrofungi survey was carried out periodically at Deen Dayal Upadhyaya Gorakhpur University Campus during 2019-2021. The observation is done in rainy season (July to Oct.). Field survey were done in different places of the University Campus. The present investigation a lots of macrofungi were found the distributon of macrofungi based upon Nature and Habitats of the collected macrofungi in to different groups 54 species were Saprobic, 17 species were Saprotrophic, 4 species are parasitic and 3 species are Symbiotic in Nature. In present survey the Edibility Status of macrofungi a total of 78 species of macrofungi categarise as 28% of species are Edible , 9% species are Edible as choice, 37% species are Inedible, 7% of species are Poisonous and 19 % of species are not known.

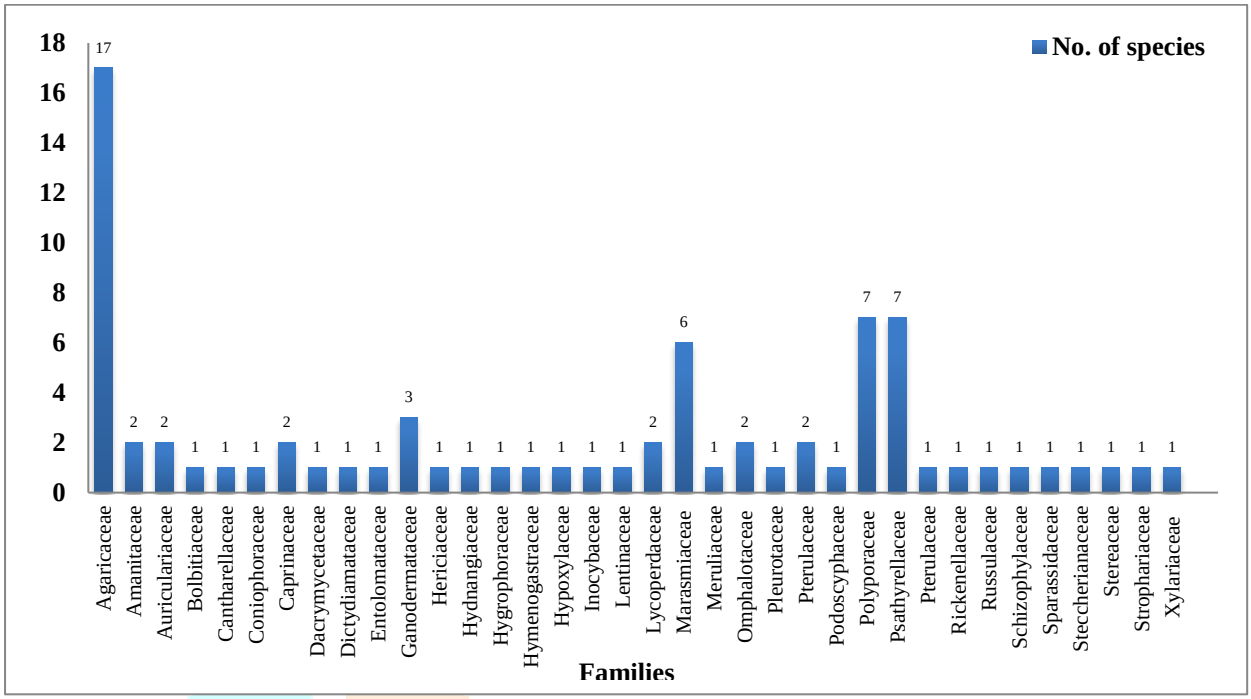

Figure 5. - Family wise distribution of macrofungi Collected From D.D.U. Gorakhpur University.

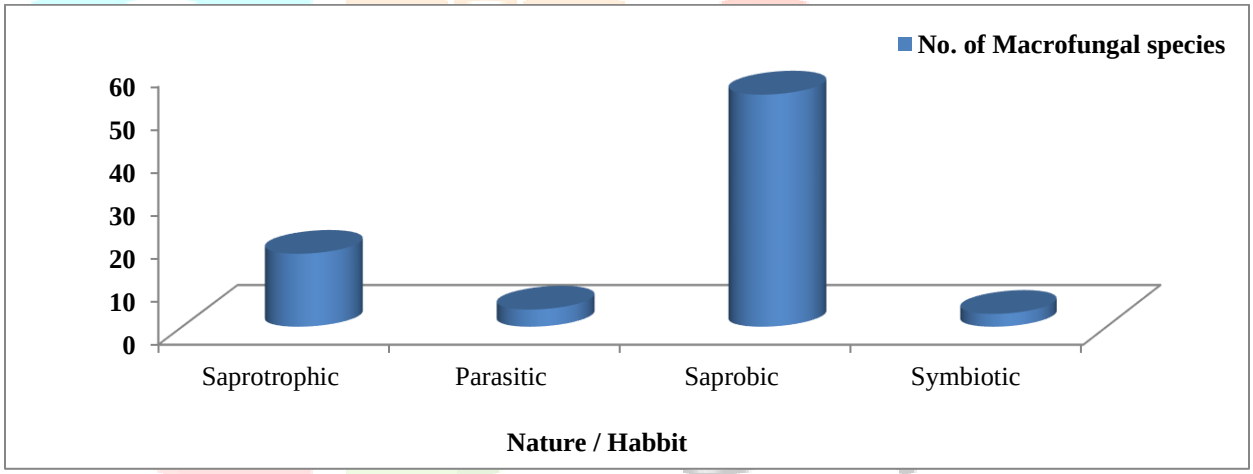

Figure 6.- Distribution of different Macrofungi groups Based on Nature/Habbit.

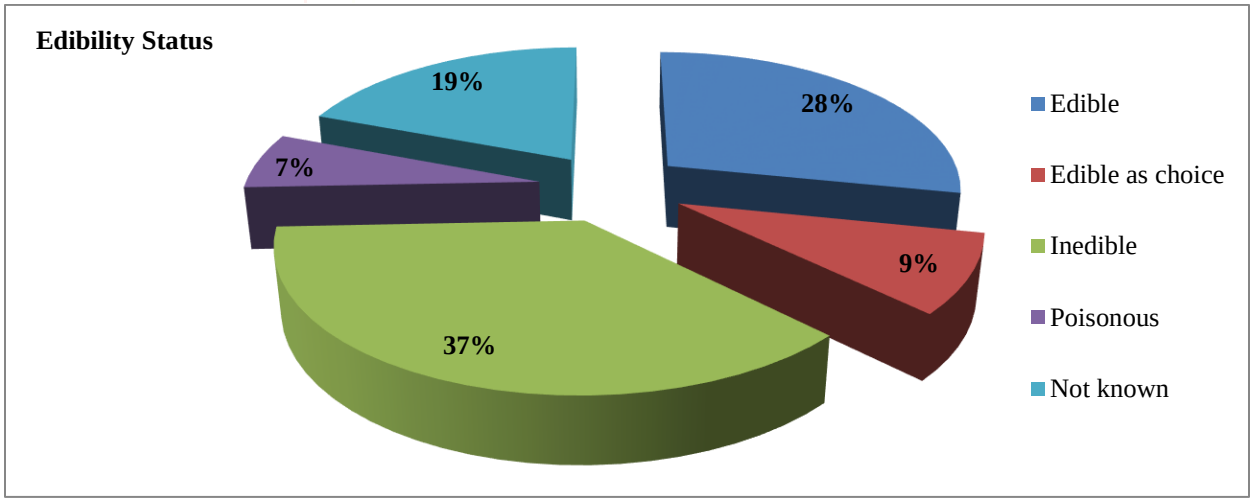

Figure 7. - Edibility Status of Macrofungi collected from D.D.U. Gorakhpur University.

Conclusion

The present study is done the first time from D.D.U. Gorakhpur University, Gorakhpur. In present survey a total of 78 Species of macrofungi belonging to 55 Genera of 36 Families were identified. Macrofungi are very diverse in nature. One of the primary ecological components that support the bioremediation process is macrofungi. In addition to being a great source of minerals, it has numerous medicinal principles for the well-being of humans. Macrofungi play major role in decomposition and nutrient cycle. Global warming , climate change and deforestation would have a negative impact on the delicate fungi's ability to regenerate and grow, as they need a certain microclimate. Several accounts on the fatalities inflicted on by mushroom poisoning have been made public. To stop further deaths, something urgently needs to be done. To raise awareness of the dangers of mushroom poisoning, a program utilizing social media, television, and newspapers should be started. The wild edible mushrooms will help the tribe's populace develop and adopt artificial growing techniques, which will eventually provide them with a new source of income. These macrofungi are often utilized as traditional medicines in addition to being eaten as food. Even some of the macrofungi are highly priced locally marketed. This kind of information can pave the way for researchers to explore new areas and discover novel therapeutic candidates to prevent a range of illnesses.

Acknowledgements

The author wish to thank Head and Professors, Department of Botany DDU Gorakhpur University and Gorakhpur for providing necessary Laboratory facilities.

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