



DIVERSITY AND DISTRIBUTION OF AMANITACEOUS MUSHROOMS IN INDIA, TWO NEW REPORTS FROM SAL FOREST OF CENTRAL INDIA

R.K. VERMA* AND VIMAL PANDRO

Forest Pathology Discipline, Forest Protection Division,
Tropical Forest Research Institute, Jabalpur - 482 021, Madhya Pradesh, India

*Corresponding author: vermaramk@icfre.org

ABSTRACT: An account of mushrooms belonging to Amanitaceae reported from different part of India is given. Total 80 species of Amanitaceae, including 73 species of *Amanita*, 1 of *Catatrampa*, 4 of *Limacella* and 2 of *Saproamanita* were compiled from literature with their records of habitat, distribution and references. Uttarakhand represent the maximum diversity of Amanitaceae and reported species from 27 places followed by Himachal Pradesh (24), Kerala (16), Odisha (7), Jammu and Kashmir and Meghalaya (5 each), Madhya Pradesh (4) West Bengal (3) and rest of states showed only two, one or no place of occurrence of any species. Two species of *Amanita* namely: *Amanita bisporigera* and *Amanita pantherina* were recorded for the first time from sal forest of central India (Madhya Pradesh). These fungi are known to form ectomycorrhizal association with sal trees. One species, *Amanita populiphila* was earlier reported as growth promoter of forest tree saplings, tea and *Gmelina*.

Keywords: *Agaricomycetes*, *Amanitaceae*, *distribution*, *ecto-mycorrhiza*

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Family Amanitaceae
R. Heim ex. Pouzar
(Agaricales) is a
mushroom forming fungi

also known as amanita family. The members of this family are mushrooms with white, free gills and white spore prints. There are 8 genera proposed under this family namely, *Amanita*, *Amanitopsis*, *Amarrendia*, *Catatrampa*, *Limacella*, *Saproamanita*, *Torrendia*, later on *Amanitopsis* and *Torrendia* are taken synonymous with *Amanita* while no species of *Amarrendia* is reported from India. It comprises of both the edible as well as deadly poisonous species. More than half the cases of mushroom poisoning stem from members of this family. Mushroom poisoning is a perennial problem in India where mushroom collection from wild is common. The majority of mushroom poisonings occur due to misidentification as edible variety such as *Amanita*, *Galerina* and *Lepiota*. *Amanita phalloides*, commonly referred to as death caps responsible for death due to mushroom poisoning. (Kirchmair et al., 2012). Recently some edible macro fungi from central India were reported including, *Astraeus hygrometricus*, *Auricularia auricular-judae*, *Laetiporus sulphureus*, *Macrocybe crassa*, *Macrocybe lobayensis* and *Schizophyllum commune* (Verma and Verma 2017a, b; Verma et al., 2017a,b,c). Before consuming a mushroom proper identification of the target mushroom is must. Literature on taxonomy and identification of

Amanita mushrooms which can be referred for correct identification: (Abraham and Kachroo, 1989; Bhatt and Bhatt, 1996; Bhatt and Lakhnupal, 1988; 1989; Bhatt et al., 1989; 1999; 2003; 2007, 2017; Das and Simha, 1990; Dhancholia, 1989; Doshi and Sharma, 1997; Farook et al., 2013; Ghosh et al., 1974; Kaur and Atri, 2002; Kaur et al., 2011; Kumar et al., 1990; Mohanan, 2011; Pradeep and Vrinda, 2007; Roy and Samajpati, 1978; Sathe et al., 1980; Semwal 2006a,b; Semwal et al., 2005; 2007; 2014; Singh and Kaur, 2016a, b; Vrinda et al, 2005a, b).

The present article reports distribution of 80 amanitaceous mushrooms from 14 states of India. Two species namely, *Amanita bisporigera* and *Amanita pantherina* were recorded for the first time from sal forest of central India (Madhya Pradesh).

MATERIALS AND METHODS

Specimens of mushrooms were collected from Madhya Pradesh during rainy seasons. Some parts of collected samples were preserved in 70% alcohol just after collection for microscopic study. The fruit bodies of fungi were dried under the sun or in the wooden box lighted with 100W electric bulb. Microscopic slides were prepared by using stain, mountant, clearing and softening chemicals. Slides were observed under advanced research microscope (Leica, Germany) using 5x, 10x, 20x, 40x objectives and 10x and 15x eyepieces. Observations under phase contrast and