

Antibacterial Assay of Selected Mushrooms of Ranchi District

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Abstract—Mushroom is the fleshy fungi of the class Basidiomycota, characteristically having an umbrella shaped cap borne on a stalk with gills on the underside of the cap especially any of the edible kinds. Mushrooms are the rich source of proteins, vitamins and minerals and are low in fat content (2-8%). This unique chemicals constitution of mushrooms makes them low calorie food and choice diet for those suffering from hypertension, arthrosclerosis, diabetes, obesity etc. Mushrooms appear to be a good source of vitamin including thiamine, riboflavin, niacin, biotin and ascorbic acid. Several varieties of edible mushrooms have been found in different areas of Ranchi district and they serve as a very important source of healthy food for the poor people. Around two hundred samples were collected from different areas of Ranchi District. It was found that these samples belongs to 9 different species of mushrooms namely *Agaricus bisporus*, *Agaricus campestris*, *Ganoderma lucidum*, *Astraeus hygrometricus*, *Pleurotus populinus*, *Pleurotus pulmonarius*, *Russula emetica*, *Russula cyanoxantha* and *Amanita pantherina*. Anti bacterial assay was carried out on these collected mushrooms. Four different strains of bacteria namely *Escherichia coli*, *Salmonella typhi*, *Pseudomonas fluorescence* and *Pseudomonas putida* were used. Antibiotic named ampicillin was used as positive control and methanol was used as negative control. *Agaricus bisporus* and *Agaricus campestris* both showed maximum zone of inhibition against *P. putida*. Likewise, *Ganoderma lucidum* showed maximum zone of inhibition against *E. coli*. *Astraeus hygrometricus* showed maximum zone of inhibition against *E. coli*. *Pleurotus populinus* showed maximum zone of inhibition against *P. fluorescence*. *Pleurotus pulmonarius* showed maximum zone of inhibition against *S. typhi*. *Russula emetica* showed maximum zone of inhibition against *E. coli*. *Russula cyanoxantha* showed maximum zone of inhibition against *P. putida*. Finally, *Amanita pantherina* also showed maximum zone of inhibition against *P. putida*.

Keywords: *Agaricus bisporus*, *Agaricus campestris*, *Escherichia coli*.