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# BIOLOGICAL AND PHARMACOLOGICAL PROPERTIES OF SELECTED WILD MUSHROOMS OF CENTRAL WESTERN GHATS REGION OF KARNATAKA, SOUTH INDIA

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**ABSTRACT:**

*Karnataka, one of the Southern conditions of India has 3.83 Million ha of recorded timberland territory which is around 20 percent of its land zone. Karnataka is enriched with most radiant backwoods in the nation extending from magnificent evergreen timberlands of the Western Ghats to the clean wildernesses of the fields. The Western Ghats of Karnataka are one of the 25 worldwide need hotspots for preservation and one of the two on the Indian subcontinent. A few monetarily significant animal categories, for example, Sandalwood, Rosewood, Teak, White cedar develop normally in these woodlands. Karnataka backwoods is invested with rich natural life, harbors 25 percent of the elephant populace of India, 10 % of the Tiger populace.*

**KEYWORDS :** *atmosphere, geography and soil.*

## INTRODUCTION :

The state has 5 National parks and 21 asylums involving about 17.3 % of all out woods territory as ensured region for natural life and biodiversity. The state positions fourth among all the state and association regions in regard of territory under tree spread. The State of Karnataka is a piece of very biodiversity rich areas of India. The Western Ghats of Karnataka is one of the super biodiversities of the world. The State is invested with extraordinary decent variety of atmosphere, geography and soil. Karnataka has incredible assorted variety of species, including the person which has co advanced since hundreds of years. Geologically the State can be partitioned into three noteworthy zones. With the

Western Ghats (Sahyadri) shaping a noteworthy water separate, there are short and quick streaming waterways in the west depleting into the Arabian ocean. Eminent among them are Sharavati, Kali, Netravati, Bedthi/Gangavalli, Aghanashini, Varahi and Chakra. Toward the east of the real partition, stream the waterway Krishna and Cauvery. A noteworthy piece of the upstream of stream Krishna and its tributaries Tungabhadra, Ghataprabha, Malaprabha, Bhima and Vedavati move through northern Karnataka, go through Andhra Pradesh before joining the Bay of Bengal. The Cauvery waterway in the south streams down the eastern inclines of the ghats, goes through Tamil Nadu before joining the Bay of Bengal. The principle tributaries are Hemavathi, Kabini, Arkavati, Shimsha, Palar, Uttara and Dakshina Pinakini, Manjira and Karanja are the main tributaries of stream Godavary found inside the State limit

## BIOLOGICAL DIVERSITY ACT 2002

The Biological Diversity Act, which came into power in February 2003, intends to advance protection, maintainable utilize and impartial sharing of advantages emerging from biodiversity assets. National Biodiversity Authority built up at Chennai as base camp is the peak body. The National Biodiversity Authority assumes an administrative job with respect to access to natural assets by outside residents and concede of Intellectual Property Rights. It has warning job in issues identifying with the protection, economical utilize and fair appropriation of organic assets. Karnataka Biodiversity Board was built up during August 2003. The demonstration accommodates the foundation of Biodiversity Management Committees at Grampanchayat, Taluk Panchayat, Zilla Panchayat and Municipalities and other neighborhood bodies The State Biodiversity Board exhorts the state Government on issues identifying with protection of biodiversity, supportable utilization of its parts, additionally directs access of organic assets by Indian Citizens. The demonstration additionally accommodates the documentation of organic decent variety and learning identified with natural assorted variety at the nearby body levels.

## Collection and identification of wild mushrooms

In the present examination, the antimicrobial and pharmacological properties of wild mushrooms of Western Ghats area of Karnataka, uncovers a re-established enthusiasm for wild macrofungal contemplates, where one can see a great deal of decent variety among the gathered macrofungi and the majority of them were wood decaying organisms. The uncommon *Lectarius* species were found in Bamboo shrubs. The commanding species were, *Ganoderma,* Jelly growths and *Microporus* spp. The examination has given a grand opening to further investigations. By perception of all these assorted variety of macrofungi, one can say that, still a ton of shifted decent variety of macrofungi is there in the backwoods of Western Ghats. Among these, some of them were novel parasites having pharmaceutical and modern significance. There are some unidentified macrofungi, these unidentified macrofungi can be extrapolated for their practical significance. Out of all out gathered 95 macrofungi, it is conceivable to distinguish 22 macrofungi up to family levels, 34 up to species level and remaining 39 fruiting bodies were unidentified. Macrofungal fruiting includes variegated arrangement of procedures, including examination by ecological prompts, that initiate articulation of qualities associated with the fruiting procedure (Yang *et al.,* 2012). A few analysts have demonstrated the discoveries that vital job of neighborhood atmosphere, particularly precipitation significantly impact in organizing the macrofungal network and their fructification (Osemwegie and Okhuoya, 2011). Aside from these, human exercises in the investigation destinations may have come about Chapter-6 Discussion 228 in relatively low accessibility of assets, that may have diminished the macrofungal fruiting. A comparable appearance on reliance of asset accessibility in fruiting phenology and profitability of macrofungi was clarified (Yang *et al.,* 2012) and (Osemwegie and Okhuoya, 2011). Additionally, the heading and distinction of progress are species and site subordinate and the reaction of individual species to ecological changes vary (Yang *et al.,* 2012).

## Phytochemical investigation of dominating Mushroom species

All most all macrofungal fruiting bodies produce synthetic mixes, as a feature of their typical metabolic exercises, which incorporate essential metabolites and auxiliary metabolites. The optional metabolites were found in littler amounts. Some helpful ones found uniquely in a specific class or animal varieties. The auxiliary metabolites that can have helpful activities in human and which can be refined to deliver drugs. These mushroom based medications are productive and fill in as phytomedicines in the human body. Normal prescription are pulling in recharged consideration, is empowering from both reasonable and logical view focuses. The adequacy has demonstrated over the long decades, at the same time, the method of activity of people home grown prescriptions and related items from nature is considerably increasingly unpredictable, than robotic explanation of a solitary bioactive factor. This is on the grounds that; unfractionated or mostly fractionated concentrates are utilized. Regularly, blends of various constituents are available. In any cases synergism is in all probability assuming a significant job. Assessment and detachment of these blends of the dynamic constituent and their method of activity will be the difficult errand in the present investigation, the wild mushrooms *viz., Hygrocybe cantharellus, Ganoderma cupreolaccatum, Geastrum triplex, Calocera viscosa* and *Lycoperdon umbrinum*, were screened for phytochemical and pharmacological exercises. The starter subjective phytochemical examination appeared, the nearness of major phytoconstituents *viz.,* alkaloids, terpenoids, saponins, flavonoids, steroids, phenols, glycosides, tannins, starches and proteins in various dissolvable concentrates, though, anthraquinones, polysaccharides, lipids and oils were not distinguished in any of the concentrate. Among the four solvents utilized for extraction, the methanol dissolvable breaks down progressively number of phytoconstituents, trailed by, fluid, oil ether and chloroform. The quantitative examination of phytochemicals of methanol concentrate uncovered that, the test large scale parasites were observed to be rich wellspring of phytoconstituents, containing a decent measure of phenols, trailed by flavonoids. The steroids, tannins, alkaloids and saponins were found in low amount. The above said results are congruity with the discoveries of Strigina *et al.,* (1971), Protiva *et al.,* (1979) and Kubota *et al.,* (1982). The current natural issues of an Earth-wide temperature boost and environmental change would unfavorably influence the recovery and development example of the sensitive parasites (Ashok *et al.,* 2014). The utilization of characteristic items, including restorative mushrooms is expanding step by step and the development of the therapeutic mushrooms increments for screening diverse dissolvable concentrate of *Hygrocybe cantharellus, Ganoderma cupreolaccatum, Geastrum triplex, Calocera viscosa* and *Lycoperdon umbrinum*, the outcome acquired has affirmed the helpful possibilities of certain mushrooms utilized in conventional prescription (Chittaragi *et al.,* 2014). The relative antimicrobial action of mushroom concentrates may not be effectively associated, with any individual segment, at the same time, with a blend of mixes present in these concentrates. There are reports appearing, alkaloids are in charge of the antifungal action (Cordell *et al.,* 2001). It was likewise recommended that, the antimicrobial action is for the most part because of the nearness of alkaloids, tritrepenoids and other common polyphenolic mixes or because of free hydroxyl gatherings. Additionally, optional metabolites, for example, tannins and different mixes of phenolic nature are likewise delegated antimicrobial mixes. Along these lines, the nearness of alkaloids, tannins, triterpenoids and sterols could legitimize somewhat the watched antimicrobial action in the present investigation. A few of these constituents may perhaps be in charge of the mushrooms antimicrobial movement. Flavonoids for example, have been important to mainstream researchers, due to late reports on their antiviral, antifungal, calming and cytotoxic (Aguinaldo *et al.,* 2004) and have additionally demonstrates antibacterial and against HIV property (Evans *et al.,* 2002). Discussion 231 The nearness of alkaloids in the mushroom powder clarifies, its antibacterial movement, since it is accounted for to have antibacterial action (Idowu *et al.,* 2003). Be that as it may, this property might be lost during fractionation with methanol, ethyl acetic acid derivation and n-butanol, which demonstrated nonappearance of this phytochemicals.

## Evaluation of Pharmacological properties of selected Wild Mushrooms

Numerous pharmaceutical substances, with intense and extraordinary wellbeing upgrading properties have been segregated from restorative mushrooms circulated around the world (Cairney *et al.,* 1999). Mushroom based items either from the mycelia or fruiting bodies are expended as containers, tablets or concentrates (Nitha *et al.,* 2006). In the present investigation, various concentrates and secluded unadulterated mixes of chosen wild mushroom species were exposed to pharmacological exercises.

## CONCLUSION

All in all, methanol extracts could be considered as a potential wellspring of biomedicine as for cell reinforcement, antibacterial and cytotoxic impacts. These putative remedial capacities may be ascribed to phenols and flavonoids as they were available dominatingly in the portion. In any case, confinement and assessment on key components that has the immediate impact on therapeutic prospects should be explained further; such examinations may prompt potential disclosure of novel, common and bioactive medications.

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