

# Report on *Ganoderma* Mushroom Hunt Programme

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The month of August is festive season of Mushrooms. The department of Microbiology and Bioinformatics, Bilaspur University, had organised an excursion programme for search of King of Mushrooms- *Ganoderma* spp. under the guidance of Shri Basant Kumar Gupta of (NGO) Karuna Mushroom Samiti, Bilaspur in forest of Belgehna region of Bilaspur district on 09/08/2017.



The location for hunt was selected forest nearby Kori dam in Belgehna, it is situated in between Kota and Ratanpur.



This Karhi, Karra, Harra and Behrra wood forest is well known for mushrooms specifically this mushroom of medicinal property (*Ganoderma* spp.). Students of M.S.c I & III semester of department of Microbiology and Bioinformatics, Bilaspur University, in the very beginning of session 2017-2018, were taken for this field trip on dated 09/08/2017 to acquaint knowledge from nature and learn the natural science of *Ganoderma* spp. in Bilaspur C.G.

*Ganoderma* can be cultivated in lab condition but naturally it grows on stems of old trees and old wood logs. It is also called as wood mushroom. The fruiting body of *Ganoderma* has shiny appearance with varied shape and named accordingly such as Heart Gano, Brain Gano, Kidney Gano and Liver Gano.

The hunt for *Ganoderma* spp. by department was a great success. The students were enthusiastic and enjoyed being with nature and learned a lot about *Ganoderma* spp. mushrooms. Each students and faculties individually found and collected *Ganoderma* mushrooms.



This hunt programme added a great resource to the department for future endeavour. Sample specimen of different shaped *Ganoderma* spp. collected by the department has opened a new area of research for pioneer researchers in field of mushroom technology in the department of Microbiology and Bioinformatics, Bilaspur University.

### Why *Ganoderma*?

*Ganoderma* spp. known by name Reishi in East Asian countries, Lingzhi in China and Yangzhi in Japan, is an important medicinal mushroom. Main species are *Ganoderma lucidum*, *G. sinense*, *G. sugi* and *G. aplanatum*, among these *G. lucidum* is best known for its medicinal properties and are highly researched mushrooms. Literature survey tells that *G. lucidum* improves the body's immunity and are known to cure heart disease, diabetes, arthritis, liver and spleen disease and high blood pressure. It is important medicinal tool to combat dreadful diseases such as cancer and AIDS. Researchers have also mentioned it as having immortifying properties.

### Life science of *G. lucidum*

According to recent trends of classification, *Ganoderma* fungus has been given taxonomic rank Kingdom-Mycota, Class- Basidiomycotina, Order- Ephiiloforales, Family- Ganodermataceae, Genus- *Ganoderma* in taxonomic hierarchy.

The word *lucidus* in latin means shiny and derma is related to skin. The shiny surface of *G. lucidum* fruiting body is main characteristic feature for its identification hence named lucidium. It appears as if its surface is being polished golden red or brown.

Its fruiting body appears annually called as Basidiocarp, covered with yellow, red or brown spores called as basidiospores, has varied shape and sizes.

### **Biochemical properties of *G. lucidum***

The medicinal property of *G. lucidum* is attributed due to presence of two most important biochemicals – Polysaccharides (polymer of 1,3-1,6  $\beta$ -D-Glucans) and Tri-terpenes (Ganoderic acid composed of highly oxygenated lenosterol).

China has monopoly that this Reishi or Lingjhi Mushrooms are endemic to their country and are the only growers of this economically important mushroom. But ICAR Mushroom Research Centre, Solan H.P. has developed the technique for cultivation of *G. lucidum* in India. This species is also prominent in India and Chhattisgarh too.

Chhattisgarh being forest based state has its own indigenous collection of *G. lucidum* in natural habitat.

Field trip to forest of Belgehna region of Bilaspur District of Chhattisgarh by Department of Microbiology and Bioinformatics on date 09/08/17 has initiated a step-up to explore the forests in search of our indigenous treasure. *G. lucidum* collected by the students and faculty are brought to the Microbiology laboratory, some were cultured in PDA media for mother culture production, some were kept in formalin to be used as specimen for further study and some were maintained as dried specimen.