



New Mushrooms in Khasi Hills, Large Fungi in Arunachal & New Bacteria in Caves

Largest Mushroom Found

By Our Correspondent

The discovery of *Lactifluus khasianus*, the mushroom the Khasi call Tit longnah, is less a private scientific triumph than a public acknowledgment: a thread in a living cloth being formally woven into the catalogue of Western taxonomy. The story sits at the intersection of three forces: the forest that sustains people, the seasonal kitchen where an ingredient is made ordinary, and the laboratory where names and genes give that ordinary thing an official place.

In the East Khasi Hills, Tit longnah arrives with the monsoon. It is a market mushroom, gathered by hand from damp pine forests, brought into village kitchens, and sold in local bazaars in small baskets. Culinary practice here is pragmatic and precise. Tit longnah is not a delicacy; it is a staple of home cooking, sliced into rice dishes, folded into stews, or tossed with local aromatics and wild herbs. The recipes are unrecorded, passed down through repetition, their simplicity reflecting continuity rather than absence. The mushroom's cultural weight lies in its return - the monsoon's edible signpost, a rhythm of foraging and familiarity that ties people to landscape.

That culinary thread is also an ecological one. Tit longnah grows symbiotically with Khasi pine (*Pinus kesiya*), thriving at around 1,600 metres. For communities that read the forest as a living map, the mushroom is both edible and diagnostic - a sign that the forest's soil and trees are in sync. Foragers know when and where it will appear, how much to collect, and how to leave enough behind. That knowledge, shared orally, encodes practical ecology long before it was described as such: a system of sustainable harvest interlaced into daily survival.

Science entered this story when researchers



from the Botanical Survey of India's Eastern Regional Centre (Shillong), St. Xavier's College (Dumka), and Mahidol University (Thailand) began to document the fungus. Using field surveys, microscopy, and DNA sequencing, they confirmed its distinct morphology - a chocolate-brown cap, larger cystidia, and genetic markers that set it apart within the *Lactifluus* genus, section *Gerardii*. The result: a name, *Lactifluus khasianus*, added to global databases and biodiversity records. But the naming did not create the mushroom; it only located it within the grammar of science. The Khasi had already named it, cooked it, and passed it through generations of knowing. The researchers' contribution was translation - from forest and kitchen into classification and lineage. That convergence matters. Tit longnah's shift from oral taxonomy to scientific literature is not just validation but a small correction in how discovery is understood.

Indigenous knowledge preceded investigation; fieldwork began with a local map. For the Khasi, the mushroom's worth is sensory, seasonal, and communal. For science, it is a new data point in a biodiversity hotspot. Both are partial truths that become whole only together. In the end, Tit longnah sits comfortably in both worlds: in monsoon markets, and in scientific journals. Its Khasi name keeps it alive in kitchens; its Latin one preserves it in archives. Each speaks to a different kind of permanence. ■





DISCOVERY

From the forests of Arunachal Pradesh state, researchers have discovered a new-to-science species of fungus with “exceptionally large” fruiting bodies that can hold the weight of a person. This was reported by Mongabay’s Divya Kilikar.

They found clusters of at least 40 fruiting bodies of an unfamiliar fungus growing on the trunks of coniferous trees, primarily old-growth fir trees. What stood out was the sheer size of some of the fungal fruiting bodies: the largest was more than 10 feet in radius. “It is so large that I could sit on it, and it remained firmly attached to the tree,” Parihar said.

Although new to science,

B. kanadii is known to local community members, but they don’t harvest it as it’s inedible and not economically valuable, Parihar added. The researchers brought some of the fungi specimens back to dry and preserve. They then analyzed its morphology in detail and finally confirmed that it was indeed a new-to-science species of *Bridgeoporus*.

Bridgeoporus fungi play a vital role in forest regeneration by helping to decompose dead wood. “Wood rotting fungi are an important group of fungi which play an indispensable role in the intricate tapestry of carbon and nutrient cycling, because of their unique capacity to degrade cellulose



and lignin,” they write in the study.

All fungi silently work to maintain our ecosystems. Without fungi, forests will be full of debris, logs and leaf litter left undecomposed. ■

Cave Harbours Actinobacteria

Krem Dam is a famous cave located near Mawsynram in the blind valley of Meghalaya, which is notable for its large 30-meter large entrance and a river that flows into it. The cave is formed in a coarse-grained limestone that has a texture similar to sandstone.

But recent studies have found that the cave harbours a surprising diversity of actinobacteria—microorganisms renowned for producing antibiotics and other bioactive compounds. Some bacterial strains were found that act as natural fertilizers and crop protectors, which could lead to greener agricultural practices.

Meghalaya’s maze of caves which are separate virtual underground worlds remain largely uncharted territory for microbiologists. Caves are isolated ecosystems where scarcity forces microbes to adapt in unusual ways—sometimes creating compounds that modern science has never seen before.

In their survey, researchers from Meghalaya and abroad isolated 48 strains of actinobacteria from Krem Dam sediments, most belonging to the *Streptomyces* genus. Many displayed antimicrobial activities against disease-causing

bacteria and fungi, while others promoted plant growth—hinting at potential uses in both medicine and sustainable agriculture. Genetic analysis showed nearly 80% of the strains carried biosynthetic gene clusters—the genetic blueprints microbes use to produce natural compounds such as antibiotics. **These antibiotics are all valued for their applications in infection control, neurology, and even cancer care.**

Interestingly, the cave’s microbial life is not just surviving—it is thriving by producing compounds with the power to save lives and protect crops, the study noted.

“From antibiotics to biofertilizers, discoveries in Krem Dam show how nature’s hidden corners can drive healthcare innovation and eco-friendly farming,” said Associate Professor Debulman Syiemiong of St. Edmund’s College, Shillong, the corresponding author of the study. The study, published in *Letters in Applied Microbiology*, stresses that more work—particularly metabolomic profiling and large-scale trials—is needed to fully test the compounds. ■

