Hemileccinum indicum

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In News: Researchers exploring the **temperate forests of the Indian Himalayas** have discovered a **new mushroom species**, named **Hemileccinum indicum**, in **Bageshwar district, Uttarakhand**. This is the **first record of the genus *Hemileccinum* in India**.

About Hemileccinum indicum

- **Type:** Newly discovered species of mushroom
- **Kingdom:** Fungi
- **Genus:** *Hemileccinum*
- **Species:** *indicum*
- **Habitat:** Temperate Himalayan forests
- **Associated Trees:** Oak (*Quercus* species)

Discovery & Identification

- Found growing **under oak trees** in Uttarakhand
- Identification confirmed using **multigene molecular phylogenetic analysis**, which:
- Analyses multiple genes
- Establishes evolutionary relationships
- Confirms taxonomic uniqueness

Morphological Features

1. **Bolete mushroom** ? has **pores instead of gills** beneath the cap
2. **Cap:**

- Wrinkled
- Violet-brown initially
- Turns leathery brown with age

1. **Pore surface:**

- Pastel yellow
- **Does not change colour on bruising**

1. **Spores:**

- Contain **tiny, intricate pits (microscopic pinholes)**

1. **Stem:**

- Smooth (unlike scaly stems in related species)

Distinctiveness

- Differs from American and Asian relatives which usually have:
- Larger, smooth spores, or
- Scaly stem surfaces

Ecological Significance

1. **Ectomycorrhizal fungus**
2. Forms a **symbiotic relationship with tree roots**, especially oak
3. Helps in:

- Nutrient exchange (nitrogen, phosphorus)
- Improving tree growth
- Maintaining forest soil health and resilience

Importance of the Discovery

1. Expands India's **fungal biodiversity records**
2. Highlights **underexplored Himalayan ecosystems**
3. Emphasises the ecological role of fungi in **forest sustainability**