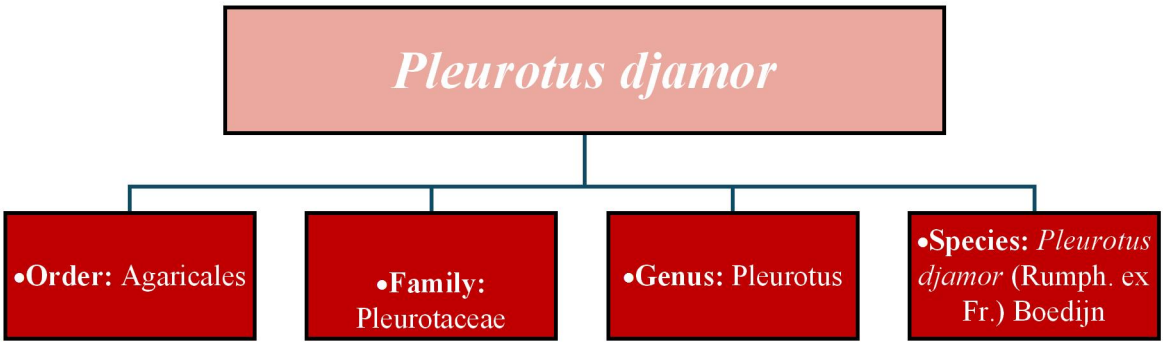
Pink Oyster Mushroom



Habit and Habitat

Oyster mushrooms are lignocellulolytic fungi, naturally occurring in temperate and tropical forests. They thrive on dead or decaying wood, including logs, stumps, and fallen tree trunks, particularly from deciduous or coniferous species. They can also colonize a wide range of decaying organic matter, reflecting their ecological role as efficient decomposers.

Morphology

It is a type of Oyster mushroom, commonly known as 'Dhingri' in India, belong to the genus *Pleurotus* within the Basidiomycota division. These fungi are known for their distinctive

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shape and versatile growing habits, making them one of the most widely cultivated edible mushrooms globally.

The fruiting bodies, or basidiocarps, of oyster mushrooms exhibit three distinct parts:

- **Cap (Pileus):** Typically, shell, fan, or spatula-shaped with various colourations including white, cream, grey, yellow, pink, or light brown, depending on the species. The cap surface and colour can vary significantly with changes in temperature, light intensity, and nutrient availability in the substrate.
- **Stipe (Stalk):** This can be short or long, lateral, or central, depending on the species and growth conditions.
- **Gills (Lamellae):** Long, radiating ridges and furrows beneath the pileus, extending from the cap edge to the stipe. The gills house the reproductive spores and play a critical role in spore dispersal

Reproduction

- **Spore Characteristics:** When the gills are placed face down on paper, they release powdery spores, creating a characteristic spore print. The spore print colour can range from whitish to lilac, pinkish, or grey. The spores are smooth, cylindrical, and hyaline (translucent) in structure.
- **Spore Germination:** The basidiospores germinate rapidly, often within 48-96 hours, forming whitish, thread-like primary mycelium on various mycological media.
- **Mycelium Development:** The primary mycelium is clampless and non-fertile, while secondary mycelium, formed by the fusion of two compatible primary mycelia, is fertile and features clamp connections.
- **Asexual Structures:** Certain species, like *P. cystidiosus* and *P. columbinus*, produce coremia-like stalked structures as a form of asexual reproduction.

Nutrient Content

Table 1. Nutritional Composition of the *P. djamor*

Sr. No.	Composition	Percentage (%)
1.	Protein	11.3%-43.1%
2.	Carbohydrates	35.5–42.4%
3.	Fat	0.1–4.6%
4.	Crude fiber	7.3–12.2%
5.	Ash	6.2–8.3%

Medicinal properties

Antioxidant Activity

- *Pleurotus djamor* exhibits significant antioxidant properties. Studies have shown that its extracts can scavenge free radicals effectively, reducing oxidative stress. For instance, methanol extracts demonstrated a high DPPH radical scavenging activity of 84.20% at 25 mg/mL concentration.

Hypoglycemic (Antidiabetic) Effects

- Research indicates that *P. djamor* may aid in blood sugar regulation. In vitro studies revealed that its extracts enhance glucose consumption in hepatocytes, suggesting potential benefits for managing diabetes.

Antimicrobial Properties

- Extracts of *P. djamor* have demonstrated antimicrobial activity against various pathogens, including *Bacillus subtilis*, *Proteus vulgaris*, and *Staphylococcus aureus*. This suggests its potential as a natural antimicrobial agent.

Anticancer Potential

- Bioactive compounds isolated from *P. djamor*, such as ergosta-5,7,22-trien-3β-ol, have shown cytotoxic effects against cancer cell lines, including human breast cancer (MDA-MB-231) and mouse T cell lymphoma (EL4), indicating potential anticancer properties.

Anthelmintic (Nematicidal) Activity

- Studies have found that *P. djamor* extracts possess nematicidal properties, effectively inhibiting the development of parasitic nematodes like *Haemonchus contortus*. This points to its potential use in controlling parasitic infections.

Nutritional Value

- *P. djamor* is rich in essential nutrients, including proteins, carbohydrates, vitamins (such as B1, B2, C), and minerals (like calcium, iron, and potassium), making it a nutritious addition to the diet

Reference

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