



Funga Taxonomic Kingdom

[Source: DTE](#)

Why in News?

Recently, **Chile and the United Kingdom** have prepared a proposal named '**pledge for fungal conservation**' to give fungi its **own taxonomic kingdom** named '**funga**'.

- The proposal would be submitted during the 16th Conference of Parties (COP16) of the [UN Convention on Biological Diversity \(CBD\)](#) in Cali, Colombia in October 2024.

What are the Key Highlights of the Pledge for Fungal Conservation?

- **About the Proposal:** It aims to recognise fungi as an **independent kingdom**, termed Funga, alongside **plants (flora) and animals (fauna)**.
 - It advocates for the recognition of fungi in **legislation, policies, and global agreements** to maintain fungi's ecological benefits.
- **Current Status:** In August 2021, the [International Union for the Conservation of Nature Species Survival Commission \(IUCN SSC\)](#) and [IUCN Re:wild](#) became the first organisations to recognise fungi as one of three kingdoms of life.
 - The **Chilean-British-led "3F" (Flora, Fauna, and Funga) initiative** emphasises the need for international recognition and protection of fungi.
- **Wide Diversity:** As per **Mycologists**, only **8%** of the total **2.2 and 3.8 million species** of fungi are scientifically known and about **2,000 new species** are discovered annually across the world.
 - **Mycologist studies fungi** such as moulds, yeasts, and mushrooms.
- **Ecological Importance of Fungi:** Fungi help in **decomposition, forest regeneration, carbon sequestration**, and maintaining the global nutrient cycle.
 - They play a vital role in **mammalian digestion** and are crucial in the production of **antibiotic medication**.
 - Several common food products, including **bread, cheese, wine, beer, and chocolate**, depend on fungi for their production
 - Fungi also help in **cleaning polluted soils** and offer sustainable food alternatives to animal products e.g., **amino acids, fibre, and antioxidants**.
 - Boreal forest fungi **absorb** significant amounts of **carbon** through **root symbiosis** with plants, thus contributing to mitigating climate change.
- **Threats to Fungi:** **Overharvesting, nitrogen enrichment in soils**, deforestation, climate change, pollution, and the wide scale use of fungicides endanger fungal species.
 - These threats jeopardise the **symbiotic relationships** fungi have with plants and animals, disrupting ecosystem stability.

What are Key Facts About Fungi?

- **About Fungi:** Fungi is a group of **eukaryotic, non-phototrophic organisms** with rigid cell walls. It includes **mushrooms, moulds and yeasts**.
- **Cell Structure:** Fungi have a unique cell wall composed of **chitin** which is a defining feature of the fungal kingdom.
 - **Plants** have cell walls made of **cellulose**, and **bacteria** have **peptidoglycan** in their

walls.

- **Nutritional Mode:** Fungi are **heterotrophic**, meaning they obtain nutrients by absorbing organic matter from their environment.
 - They do this through **external digestion**, where they **secrete enzymes** to break down complex substances before absorbing the simpler molecules.
- **Reproductive Strategies:** Fungi reproduce through both **asexual** and **sexual** means, often utilising spores.
- **Growth Form:** Fungi typically grow as **mycelium**, a network of **filamentous** structures called **hyphae**.
- **Symbiotic Relationships:** Fungi are known for forming **symbiotic relationships** with other organisms, such as **mycorrhizal associations** with plants.
 - Some fungi also form **lichens** in association with **algae**.

UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims:

Q. Which of the following have species that can establish a symbiotic relationship with other organisms? (2021)

1. Cnidarians
2. Fungi
3. Protozoa

Select the correct answer using the code given below.

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans: (d)

Q. Consider the following: (2021)

1. Bacteria
2. Fungi
3. Virus

Which of the above can be cultured in an artificial/synthetic medium?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans: (a)

Q. Lichens, which are capable of initiating ecological succession even on a bare rock, are actually a symbiotic association of (2014)

- (a) algae and bacteria

(b) algae and fungi

(c) bacteria and fungi

(d) fungi and mosses

Ans: (b)

Q. With reference to the food chains in ecosystems, which of the following kinds of organism is/are known as decomposer organism/organisms? (2013)

1. Virus
2. Fungi
3. Bacteria

Select the correct answer using the codes given below:

(a) 1 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Ans: (b)

Q. Improper handling and storage of cereal grains and oilseeds result in the production of toxins known as aflatoxins which are not generally destroyed by normal cooking processes. Aflatoxins are produced by(2013)

(a) bacteria

(b) protozoa

(c) moulds

(d) viruses

Ans: (c)