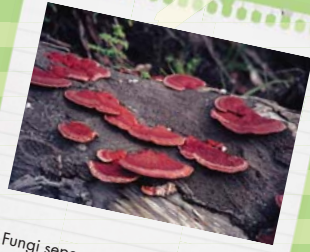


Fascinating Fungal Facts



Fungi separated from plants and animals one billion years ago.
Fungi are not plants and they are not animals ...
... fungi are fungi!

The Fungi Kingdom is more diverse than the Plant Kingdom.

Fungi are more closely related to animals than plants

Both animals and fungi have chitin in their cell walls.

Both animals and fungi consume oxygen (O₂) and organic carbon in order to grow.

Animals and fungi breathe out CO₂ 24 hrs a day.

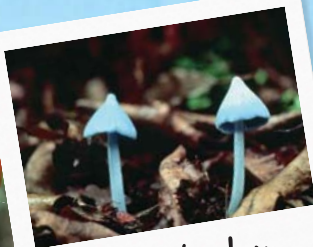
Plants have cellulose in their cell walls.

Plants produce their own organic growth materials from light, carbon dioxide (CO₂) and inorganic chemicals (photosynthesis).

Plants breathe out CO₂ at night but during the day they breathe out O₂ as the waste from photosynthesis.

Fungi play many roles

- decomposers and recyclers
- providers of nutrients to plants through root associations (mycorrhizas)
- yummy food (mushrooms)
- food spoilers and contaminators
- causes of plant diseases, and animal and human infections
- main component of lichens, with algae providing food via photosynthesis
- exotic invaders of native forests
- sources of enzymes, antibiotics, and chemicals
- producers of alcohol and bubbles in beer
- protecting some plants from drought and animal feeding



Fungi play many roles



Worldwide distribution



7,500 species recorded in NZ

7,500 species recorded in New Zealand

- about half are exotic
- about half are indigenous (and of these many are endemic i.e., found nowhere else in the world but New Zealand).
- some endemic fungi are rare and about 50 species are recognized as critically endangered
- an estimated two-thirds of NZ's expected total number of fungi have yet to be recorded

Worldwide distribution

Most fungi grow on land, although several species live partly or solely in freshwater and marine habitats. The air we breathe contains large number of fungal spores, and fungi spread variously by wind, water, soil, and animals.

Some fungi are associated with particular plants (or animals), while others have a broad host range. Some tolerate extreme environments e.g., deserts, areas with high salt concentrations, and high pressure in deep sea sediments. Some can survive the intense UV and cosmic radiation of space travel.



Hidden from view

Hidden from view

Most of the "fungi" that we see around us are actually just the fruiting bodies that produce millions of spores (fungal "seeds"). By far the greatest bulk of fungi are hidden in soil, wood, or other decaying organic matter. A teaspoon of soil may contain 15 km of fungal threads (hyphae); a teaspoon of compost may contain a staggering 200 km.