# Fungi in EIA

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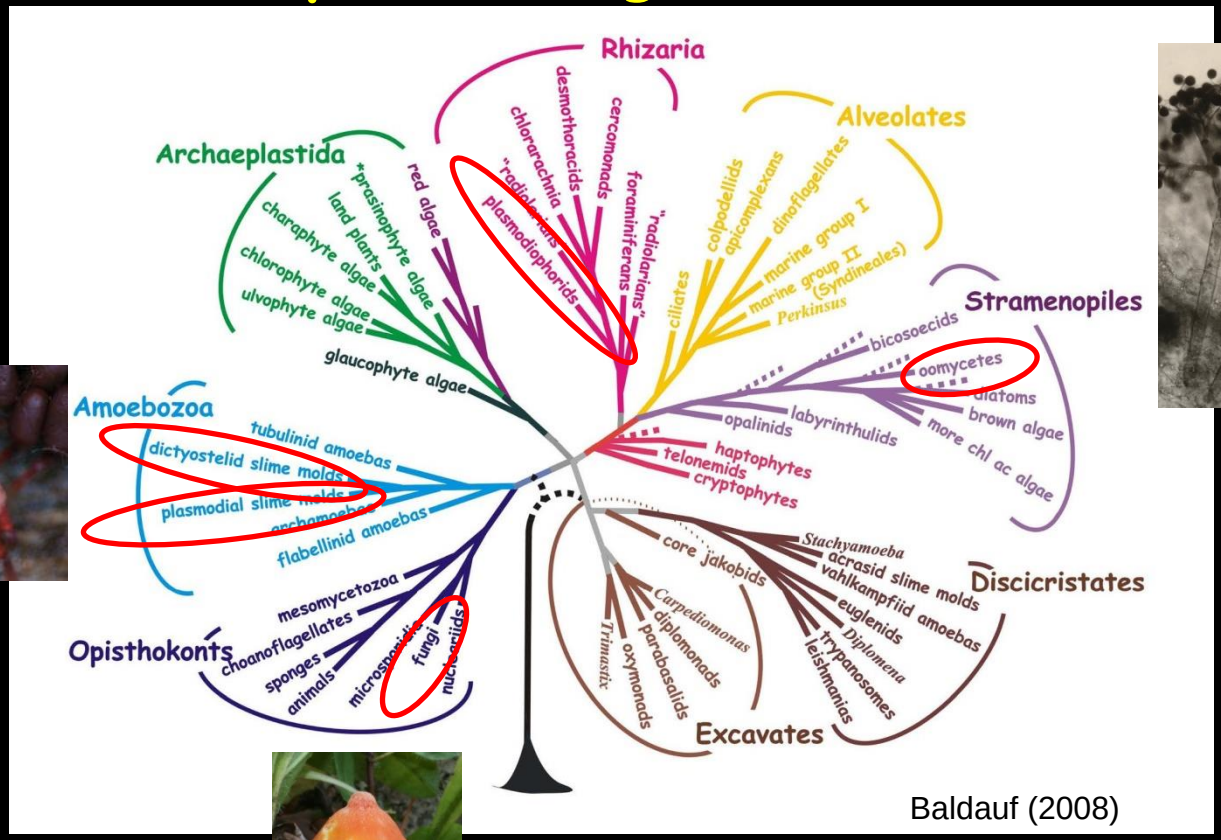
# How do Fungi fit into the Scheme of Life?

neither Animals nor Plants
have their own separate Kingdom



Baldauf (2008)

# Fungi occur everywhere

- Fungi occur everywhere: rainforest, lake shores, bushlands, grasslands, beaches, arid areas.
- Each fungus is comprised of microscopic mycelium in the substrate.
- Some fungi are microscopic for all their life cycle, others produce visible fruiting bodies.
- Estimates range from ~15,000-250,000 macrofungi in Australia with only a small fraction described.

# Fungi are made up of microscopic threads called hyphae

Fruit body

Mycelium



Fungi propagate by their spores and mycelium

# What Roles do Fungi Play?

- Plant Partners :Mycorrhizal fungi
- Decomposers : the recycling fungi
- Disease fungi

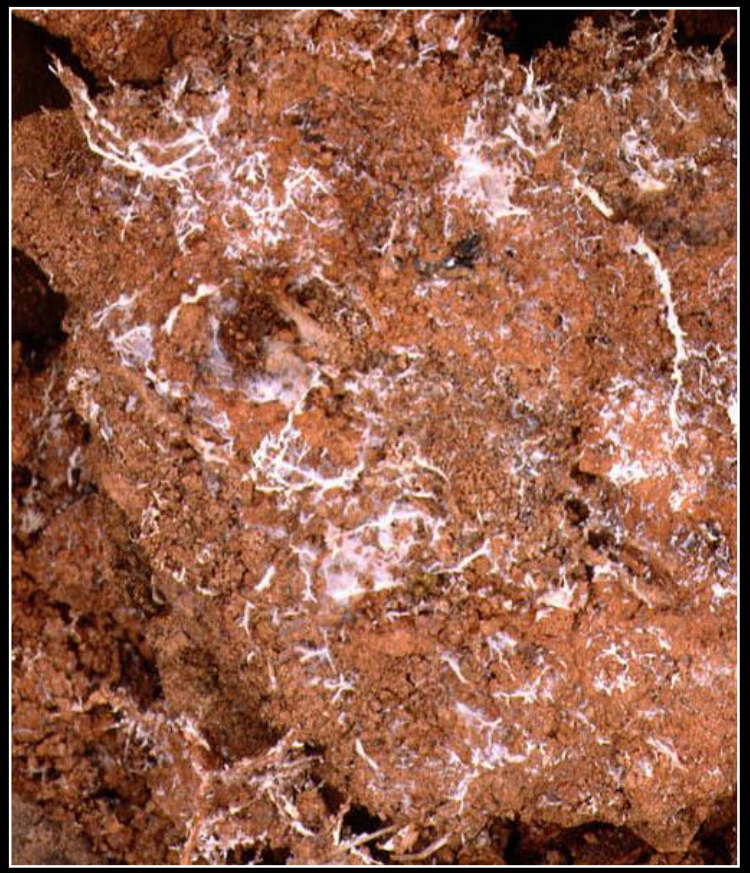
# Biodiversity Harmony

- It's **how all** the living components of an ecosystem interact sustainably with each other
- Our super biodiverse WA ecosystems are full of wonderful and unexpected interactions enabled by evolution over extraordinary lengths of time
- Quenda, potoroos, small mammals sifting though the soil for their food, truffles
- Pathogens like Armillaria killing plants and making gaps for regeneration

# What Fungi do for bushlands

Fungal networks bind soil, plants and animals into a healthy cohesive system

- decompose leaf litter and woody debris
- provide soil organic matter
- bind and improve soil structure
- transport nutrients within soil
- provide food for plants as mycorrhizal symbionts
- provide food for animals in many forms including truffles



# Fungi fruiting bodies are very common after rain in arid and semi-arid regions


# Fungi in Environmental Impact Assessment

- Yes, Fungi are an integral part of Biodiversity and should be included
- How?
- Our knowledge base is where WA plant knowledge was 100 years ago
- There have been Citizen Science efforts to raise awareness about the importance of Fungi in the Environment

# Perth Urban Bushland Fungi Project- Science Result

Over 5,000 fungi were recorded from 52 bushlands

rare fungi, weed fungi, gondwanan fungi were documented

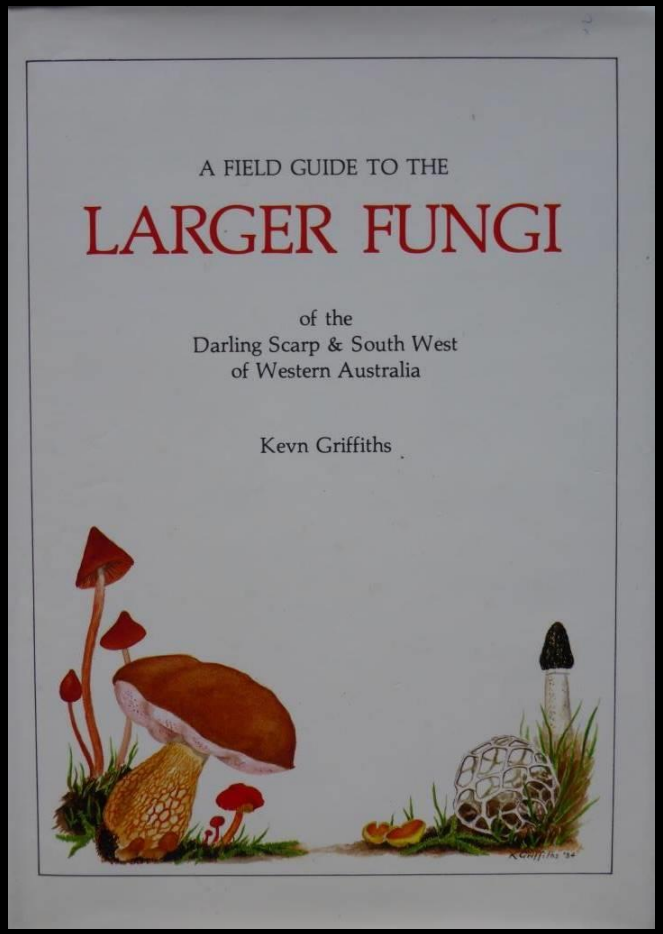
fungi collection at WA Herbarium was greatly increased

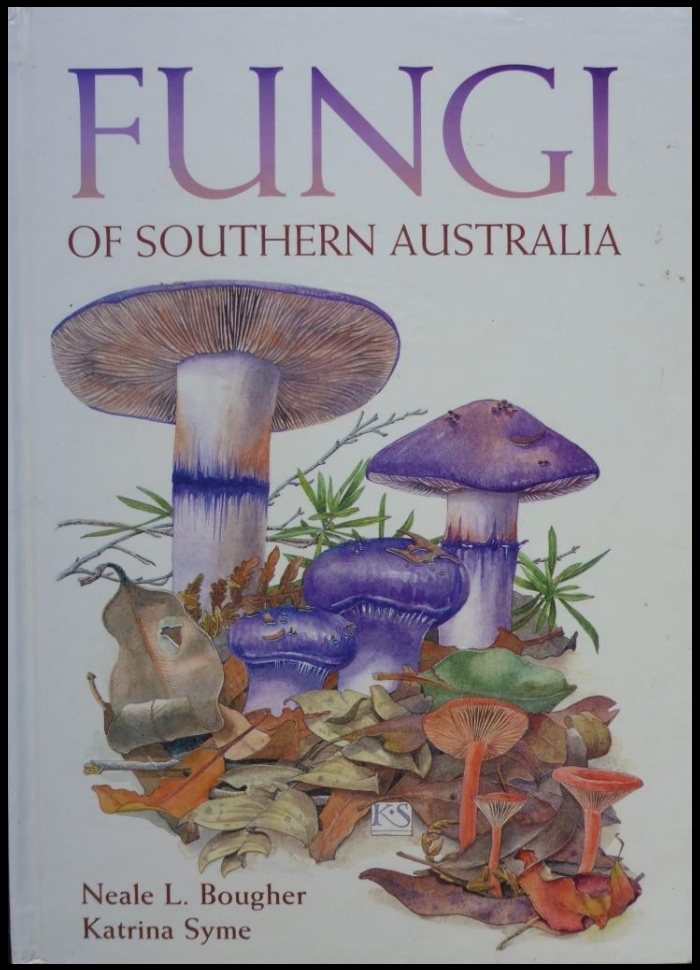
fungi were included in DoE records for Swan CP

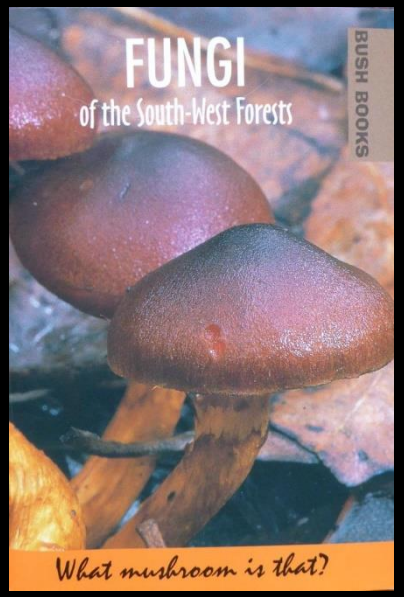
# How to record Fungi?

Good photographs are required to record and have any chance of identifying fungi species. Many specimens require microscope work to identify. Fungi specimens decay quickly. Fungi must be dried to preserve for microscope work

# Current Western Australian Fungi ID Resources



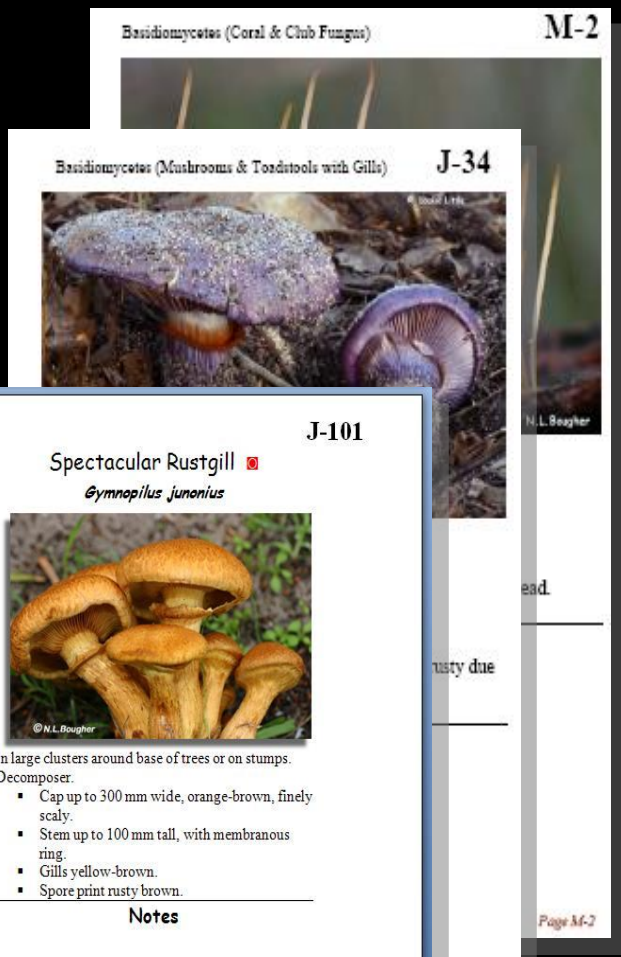



# Perth Fungi Field Book



Now available on the web at the WA Naturalists' Club fungi page

There are no funds to continue the fungiperth website or to add the many new fungi found



# Future prospects : Mycologists are rare and endangered

- We have made a start in WA
- Who is available to assist with identifying fungi?
- Support from WA Naturalists' Club, WA Herbarium
- Ongoing work at Curtin University
- Small number of experienced people (all volunteers)
- But, lack of employment opportunities and continuity of funding

# Questions?