

# New Zealand Fungal Herbarium (PDD)

The herbarium was started about 1920 by G.H. Cunningham. It was transferred to DSIR in 1936, and became part of Landcare Research's responsibilities in 1992.

Dried specimens are stored in packets within cardboard boxes that are kept on shelves similar to books in a library. The PDD vault is temperature and humidity regulated to ensure the best conditions for long-term storage of specimens. The collection contains 72,000 specimens. Of these, about 6,000 come from Pacific Islands, and 19,000 from other countries. PDD is one of only a few sizeable collections of fungi in the Southern Hemisphere. All the major groups of fungi are represented, but with emphasis on plant parasitic microfungi and wood decay basidiomycetes. The collection includes approximately 2000 type specimens of fungi, over half of which are native New Zealand species.

A type specimen is that on which the description of a new fungus (usually a species) is based.

A voucher specimen substantiates the record of a fungus in a locality (e.g., country) or on a particular host or substrate.

## What is the function of PDD?

- To substantiate the occurrence of fungal species and their distribution in New Zealand.
- To be a repository for specimens that substantiate plant disease records for New Zealand and for South Pacific Island countries.
- To be a repository for type specimens.
- The herbarium and its associated database provides stability and authentication of names. Specimens are used for comparative, accurate identifications.
- To underpin taxonomic and biosystematics research.
- To provide specialist information for organisations and government departments both within New Zealand and throughout the South Pacific.
- To provide information to help assess biosecurity risks from 'weed' fungi and assist with issues relating to trade in agriculture commodities.

PDD and its associated database (NZFUNGI – New Zealand Fungi) are key resources. Fungi are the least well-known kingdom of higher organisms (cf. animals and plants). Although 6,500 species are recorded, New Zealand could have about 20,000 species (based on comparable regions in the Northern Hemisphere).

*The fungi that you are most familiar with (mushrooms, puffballs, brackets on wood) are only the fruiting bodies. Fruiting bodies represent only a small proportion of the total fungal growth or mycelium.*

*The black mould in damp grouting, mouldy growth on jam, bread, leather and ceilings or walls are also fungi. While the appearance of these fungi is undesirable in the household situation, they are just carrying out the natural process of decay. In nature, fungi help break down matter releasing nutrients back into the environment.*

*Apart from some mushrooms, we regularly eat other fungi — blue vein cheese contains penicillin moulds. Marmite is a yeast extract that we spread on bread, while yeasts also cause bread to 'rise', and put the alcohol into beer and wine.*

## Who uses the fungal herbarium?

Specimens are loaned to mycologists in New Zealand and around the world for morphological and molecular taxonomic studies. Exchange programmes are maintained with Australian, Canadian, British, and German herbaria. DOC and MAF also use PDD, as do research students. Scientists deposit specimens to substantiate their work or to substantiate occurrence of a fungus in a country or on a particular host plant.

## Information resources

The taxonomic research is published in New Zealand journals, international journals, and in the book series "Fungi of New Zealand".

Data and resources are available online via our web site [www.nzfungi.landcareresearch.co.nz](http://www.nzfungi.landcareresearch.co.nz)

Interesting educational resources for school students and the public are available at <http://www.landcareresearch.co.nz/education/fungi.asp>

PDD IS HELPING TO MAKE  
A DIFFERENCE FOR A TRULY  
CLEAN GREEN NEW ZEALAND

