



Undescribed fungal diversity: documenting Australia's little brown mushrooms.

Luke J. Vaughan (Royal Botanic Gardens Victoria and University of Melbourne); Samuel Craig (Royal Botanic Gardens Victoria and Monash University); Gareth D. Holmes (Royal Botanic Gardens Victoria); Camille Truong (Royal Botanic Gardens Victoria); Jo Birch (University of Melbourne); Tom W. May (Royal Botanic Gardens Victoria).

Documenting species is critical for understanding biological diversity and facilitating research on the biology and ecology of organisms. Recent estimates of fungal diversity are in the millions, but so far only around 150,000 species are described and named. Many commonly encountered, colourful or charismatic species of macrofungi in Australia are well documented, but many more of the more hidden, less commonly encountered, dull or small species remain undocumented, and some of these are lumped together as LBMs or 'little brown mushrooms'. While they are undescribed, questions about the biology, ecology, interactions and ecosystem services provided by species remain unanswered. This talk will report on the progress of documenting and describing novel species of fungi from herbarium collections with macro- and micromorphological studies and phylogenetic analyses of DNA sequences. The role of citizen science and observation data will be discussed as an important tool for identifying hotspots of diversity for taxa of interest, including *Auriscalpium*, *Hodophilus*, *Pseudobaeospora* and Pezizaceae.

Luke Vaughan: Luke.Vaughan@rbg.vic.gov.au