

# Mollisia

Friday, 22 March 2019 9:46 PM

These notes were initially prepared in late 2017, additional species have subsequently been collected in NZ, but this summary gives an idea of the diversity present in NZ's native forests, and its relationship to that found in the rest of the world.

Data is presented as an ITS gene tree, comparing the 50 or so New Zealand *Mollisia* and *Mollisia*-like species for which there are cultures, to specimens treated by Joey Tanney (2016; *Phialocephala*), Brian Douglas (2013, PhD thesis), and Genbank BLAST matches to accessions from type specimens (*Ascocoryne*, *Helicodendron* and *Dimorphospora* (*Gelatinodiscaceae*) as outgroups). UNITE Species Hypothesis matches are noted. Morphology has barely been compared, but in the case of NZ Species 31 morphology does not support the ITS-based genetic match. Any matches need confirming with a more discriminatory gene; RPB1 has been used by Tanney and others. Generic limits remain poorly resolved.

Data in Geneious Dan Discos\28 Sept 2017\Mollisia

'*Mollisia*' in the sense discussed here includes most of the New Zealand specimens having a sexual fruiting body with a *Dermateaceae* morphology in the sense of Korf (non-gelatinous excipulum of more or less globose cells, usually with dark walls) that have an ITS sequence available, in morphologically defined genera such as *Mollisia*, *Pyrenopeziza*, *Niptera*, and *Tapesia*. Also included are the (as yet unpublished) sequences from the *Mollisia* PhD thesis of Brian Douglas, the *Phialocephala* sequences from Joey Tanney (2016), and sequences that represent type specimens from Genbank BLAST search results based on the New Zealand sequences.

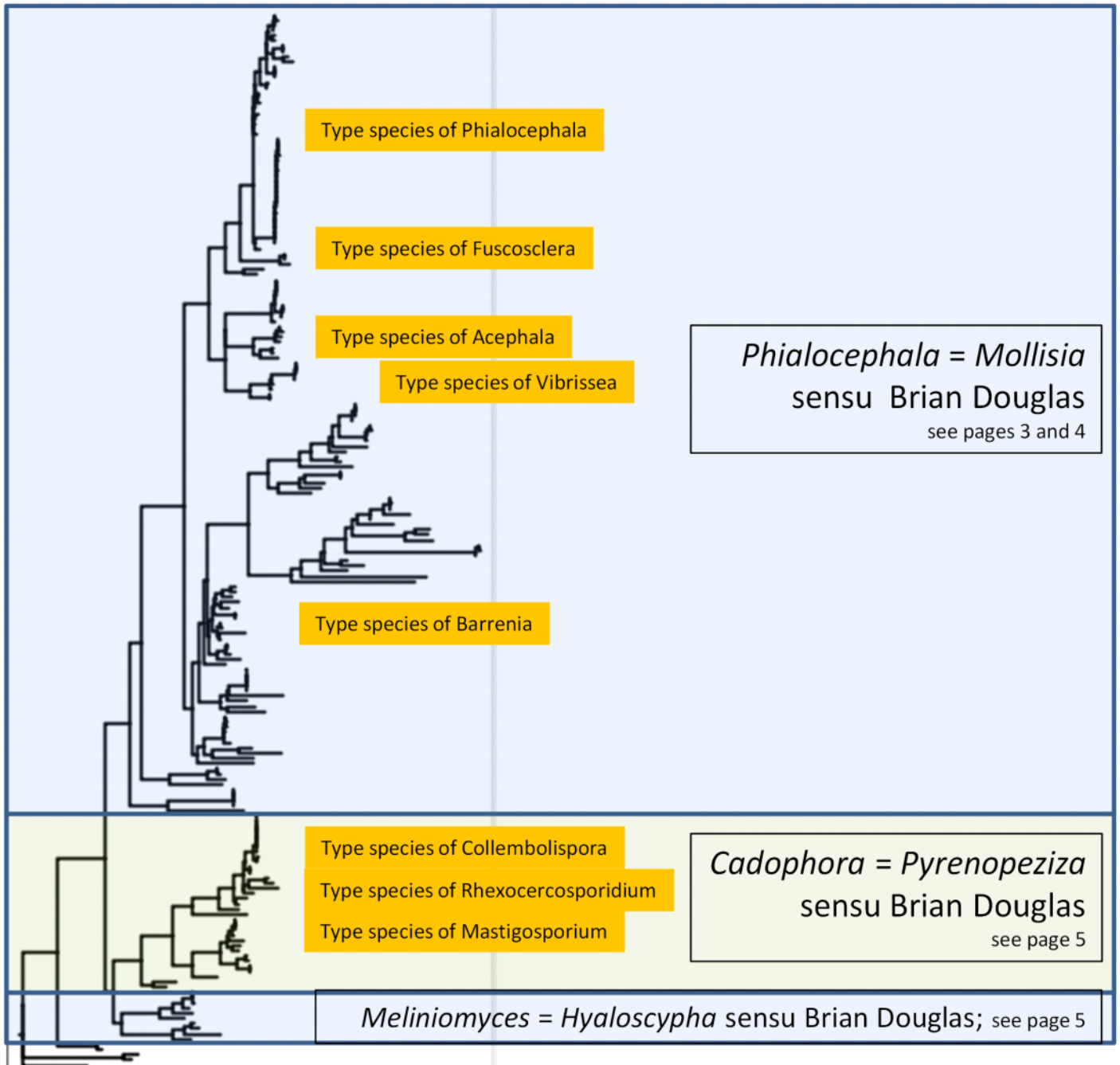
Included in the phylogeny on the basis of genetic similarity are a range of *Leotiomyces* with reduced ascomata (e.g. *Loramyces*), several genera based on asexual morphologies (e.g. *Barrenia*, *Acephala*, *Fuscoclara* and *Phialocephala*), in addition to the genus *Vibrissea*. Genetically robust generic limits amongst these fungi remain to be resolved.

Some specimens with a more or less *Mollisia*-like morphology are genetically distinct. For example, D1091, D818, D770, in UNITE Species Hypothesis SH021623.07FU and genetically close to fungi with an aquatic hyphomycete-like morphology such as *Helicodendron*, *Filospora*, *Tricladium*, etc.

Tanney et al. 2016. Sexual and asexual states of some endophytic *Phialocephala* species of *Picea*. *Mycologia* 108: 255–280. DOI: 10.3852/15-136.

Douglas B 2013. The taxonomy, phylogenetics and ecology of fungal plant-endosymbionts assignable to the genera *Mollisia*, *Pyrenopeziza* and *Hyaloscypha* (Helotiales, Leotiomyces, Ascomycota). PhD Thesis, Aberystwyth University.

ITS gene tree incorporating data from Brian Douglas (2013), Joey Tanney (2016), types from GenBank, and cultures from mollisioid apothecia from New Zealand



Note: there is no sequence data for the type specimens of *Mollisia*, *Pyrenopeziza*, *Cadophora* Outgroup, genera of *Gelatinodiscaceae* – *Ascocoryne*, *Helicodendron*, *Dimorphospora*

