

Talks

The Cortinariaceae, a polyphyletic dumping ground for rough-spored mushrooms

David Orlovich

The families Strophariaceae, Bolbitiaceae and Cortinariaceae are all gilled fungi with brown spores, in the order Agaricales. Most members of these families are decomposers, living either on dung or dead wood, but the Cortinariaceae contains some important genera of mycorrhizal species - fungi that form symbiotic associations with plants. The Strophariaceae contains many hallucinogenic species like the 'blue meanies' (*Psilocybe* spp.) and also the common pouch fungi (*Weraroa* spp.). Some of the Bolbitiaceae are commonly known as 'dunce caps' (*Conocybe* spp.) some of which are poisonous, others are hallucinogenic and others edible. The Cortinariaceae contains species like the hallucinogenic 'big laughing gym' (*Gymnopilus junonius*), the necrophilic 'corpse finders' (*Hebeloma* spp.) and another genus of pouch fungi, *Thaxterogaster*. In a recent analysis of the evolutionary relationships within the order Agaricales (Moncalvo *et al.* 1997), the families Strophariaceae and Bolbitiaceae were found to be closely related to each other and to parts of the Cortinariaceae. The Cortinariaceae is an unnatural group comprising three different lineages, more or less corresponding to the three subfamilies proposed by Singer (1986). It is surprising that such basic information about evolutionary relationships in a large group of fungi is still unclear. I introduced these groups of fungi and outlined a plan to resolve the evolutionary relationships between and within the three families by analysis of DNA sequence data.

References:

- Moncalvo, J. M., Lutzoni, F., Rehner, S., Johnson, J., and Vilgalys, R. (1997). Molecular phylogeny of the Agaricales based on 25S rDNA sequences. *Inoculum* 48, 26. Available on the web at <http://www.botany.duke.edu/fungi/mycolab/agarical.htm>
- Singer, R. (1986). *The Agaricales in Modern Taxonomy*. 4th Edition (Koeltz:Koenigstein.)

Stressing out seaweeds: *Stictosiphonia arbuscula*'s ecophysiological limits.

Abi Loughnan

Plants and animals inhabiting intertidal rocky shores around the world grow in distinct vertical bands. This region is considered to be the most stressful habitat to live in, as organisms inhabiting it experience both marine and terrestrial environments with each rise and fall of the tide. My research goal is to understand the physiological mechanisms that allow the common seaweed to prevent and/or recover from the stresses of its environment. An overview of current happenings with my research on *Stictosiphonia arbuscula* was discussed.