

## Identifying fungi - *Murcor circinelloides*



Figure 1. True color image of a burred sporangium, scale included.

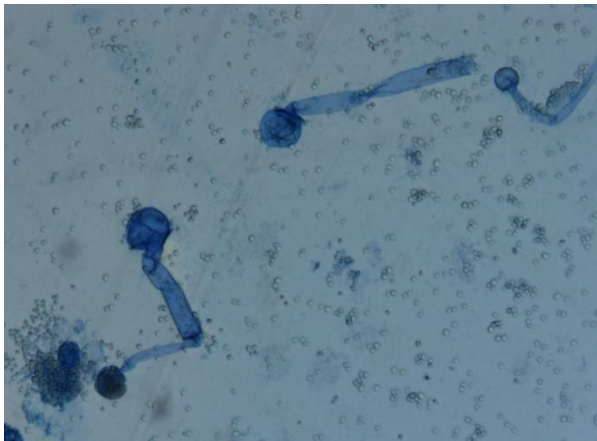


Figure 2. Three sporangium and spores stained in blue. The ones in the right corner have bursted. The left still contains spores. Scale excluded.

### Identification

Sequencing and analysis with BLAST suggest the species *Murcor circinelloides* with a 98.7% match. Other close matches were either material from the same species or within the *Murcor* family. The results strongly argue that this fungus is indeed *Murcor circinelloides*. Phylogenetic tree (see appendix) places the unknown consensus strand in the family as well.

Grown on PDA-medium the fungi form white filamentous growth. Even without magnification sporangium structures can be observed, it grows upwards and makes the fungus look “fluffy”. Closer look reveals circular sporangium with a diameter of ca 40 µm. The spores are small, circular with a diameter ca 5 µm. The hyphae are long and branching. Budding sporangia are small and circular before the mature, picture included in appendix.

The *Mucor* family consists of molds and belongs to the division *Mucormycota*. Generally, they are found in soils and on decaying matter (Botha & du Preez 1999). *Murcor* are not considered harmful to humans even though mucormycosis is a disease caused by these molds. *Mucor circinelloides* is one more well studied species because it produces lipids and high value fatty-acids.

### Method

Sampling was done on the 10<sup>th</sup> of November, near Håga ån (59.844238° N, 17.584673° E). The sample was taken underneath a tree and stored at room temperature overnight before transportation to the lab. The sample was grown at PDA medium, PCR was performed with primers TTS1 and TTS4. Consensus sequence was created with Asseq, analysed with BLAST. Construction of phylogenetic tree was done with AliView, iQTREE and iTOL.

## Sources

Botha A, du Preez JC. 1999. MUCOR. I: Robinson RK (red.). Encyclopedia of Food Microbiology, s. 1493–1500. Elsevier, Oxford.

## Appendix

Figure 3

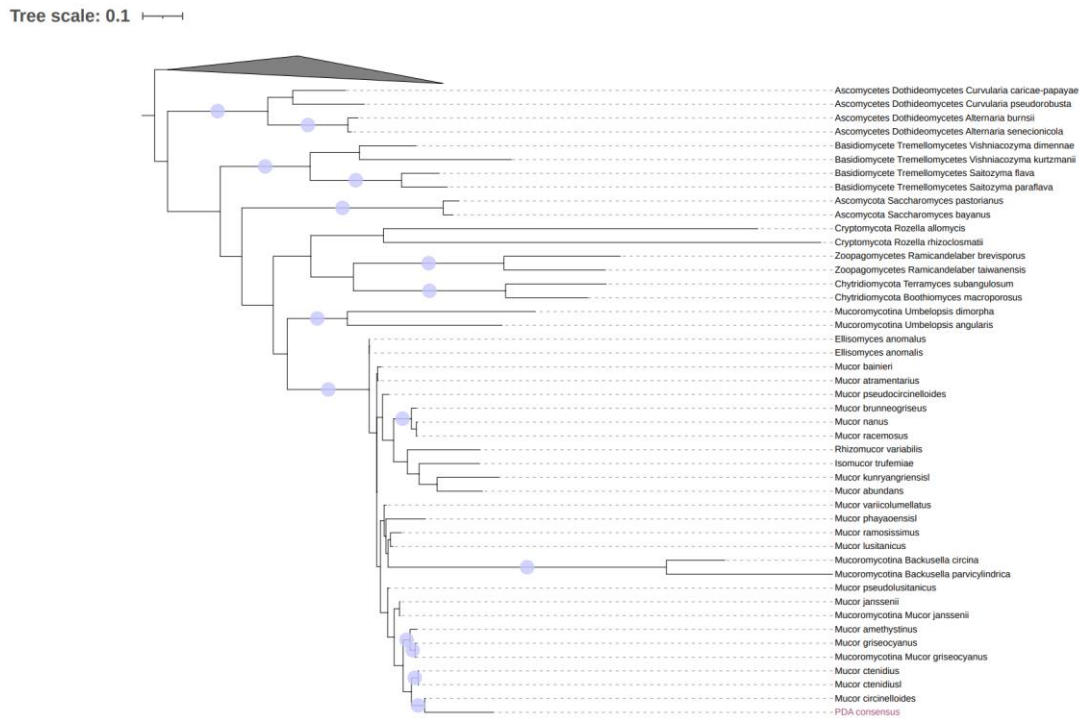


Figure 3. Phylogenetic tree including the unknown sample. It is placed as a close relative to *Mucor circinelloides* and highlighted in purple. The collapsed outgroup consists of Ascomycetes.

Figure 4.



Figure 4 shows a budding sporangium on hyphae surrounded with spores. The image is taken with true colors and a scale is included.