

Dr.

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### Are microsporidia really derived sexual fungi?

Microsporidia are obligate intracellular eukaryotic parasites with an extremely reduced gene set and an extraordinary high evolutionary rate. Their exact phylogenetic position in the eukaryotic tree is still debated. Recently, it was proposed that microsporidia harbor a sex-related locus homologous to that of the zygomycetes. A genome-wide analysis revealed several other loci with seemingly conserved gene order in these two taxa. It was concluded that microsporidia may have an extant sexual cycle, and are true fungi that descended from a common ancestor shared with the zygomycetes. A re-analysis of fungal and microsporidian orthologs reveals no indication of a sex-related locus in microsporidia. Moreover, the degree of gene order conservation is in the same range for microsporidia and zygomycetes, as it is for microsporidia and other fungi or even humans. A subsequent phylogenomic study of the fungal kingdom using a data set comprising 128 genes and 146 indicate that the alliance of Microsporidia with the fungi requires careful revision.

### Short CV

#### Education:

- 1988: Abitur, Nieder-Olm
- 1997: Diplom, Mainz  
Thesis: Intron-Evolution in der Zuckmücke *Chironomus*

#### Professional Experience:

- 2002-2005: PostDoc at the Bioinformatics Department, Düsseldorf University
- 2006-present: PostDoc at the Center for Integrative Bioinformatics in Vienna

#### Degree:

- Dr. rer. nat. (2003), Leipzig  
Thesis: DNA sequence comparisons between humans and chimpanzees.