Fine-scale chromosomal changes in fungal fitness.

Fischer D, Hube B, Brunke S (2014) Fine-scale chromosomal changes in fungal fitness. *J Curr Fungal Infect Rep* Vol. 8(2), 171-178. (Review)

Details

Abstract

Fungi are frequently exposed to changing environments and must adapt continuously to retain their fitness. This is especially true when changes occur rapidly and toward harsher conditions – a situation, for example, encountered by pathogenic fungi when they infect a host and during the different stages of infections. Here we provide an overview of the role of small-scale genetic exchanges for the fitness of human pathogenic fungi. These alterations can influence host-fungus interactions, and hence the outcome of an infection. We present recent experiments and observations dealing with the importance of the genetic diversity and previous selection pressures of the infecting pool. In addition, we discuss the role of specific niches and disease progression as well as antifungal treatment on fungal microevolution in vivo. We conclude that different mechanisms of small-scale genetic changes allow pathogenic fungi to increase their fitness in the host, and can thus alter the course of infections.

Involved units

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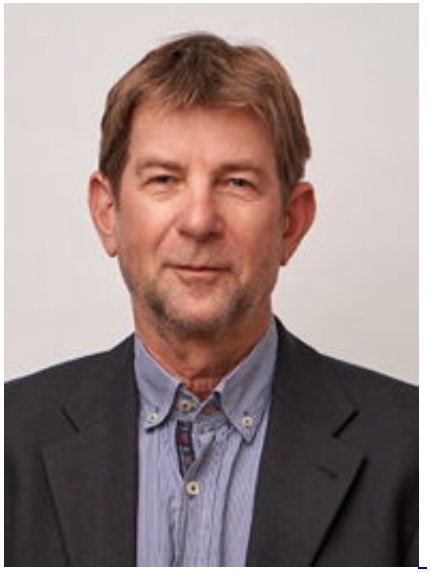

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Topics

Evolution & adaptation in pathogenicity

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