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Title

Phylogenics and Patterns of Molecular Evolution in Amoebozoa

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Abstract

My dissertation explores several aspects of the relationship between morphological and molecular evolution in amoeboid lineages:

Chapter 1 - General Introduction: This chapter provides an overview of the most pressing issues in Amoebozoa phylogeny that are dealt with in the remainder of the thesis

Chapter 2 - Reducing the impact of PCR-mediated recombination in molecular evolution and environmental studies using a new generation high fidelity DNA polymerase: This chapter addresses the methodological difficulty in the study of large gene families, the generation of artifactual sequences by recombination during PCR.

Chapter 3 - Evolution of the actin gene family in testate lobose amoebae (Arcellinida) is characterized by two distinct clades of paralogs and recent independent expansions: This chapter explores intriguing patterns of evolution in the actin gene families of testate amoebae.

Chapter 4 - Comprehensive phylogenetic reconstruction of Amoebozoa based on concatenated analysis of SSU-rDNA and actin genes: A deep phylogenetic analyses of the Amoebozoa, enables exploration of well supported taxonomic units within the group.

Chapter 5 - Interpreting the evolutionary history of the Tubulinea (Amoebozoa), in light of a multigene phylogeny: This chapter explores a more restrict taxonomic unit within the Amoebozoa - the Tubulinea - based on an expanded sample of genes and taxa.

Chapter 6 - The chastity of amoebae: re-evaluating evidence for sex in amoeboid organisms: This chapter asks whether the null-hypothesis that amoebae are asexual is consistent with current phylogenetic evidence

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