Biological Sciences

Organelles, Genomes and Eukaryote Phylogeny

An Evolutionary Synthesis in the Age of Genomics

The recent revolution in molecular biology has spread through every field of biology, including systematics and evolution. Researchers can now analyze the genomes of different species relatively quickly, and this is generating a great deal of data and theories about relationships between taxa as well as how they originated and diversified.

Organelles, Genomes and Eukaryote Phylogeny covers recent developments in the field of "deep level" phylogenetic inference of eukaryotes, especially with respect to the origin and evolution of eukaryotic cells and their organelles. It focuses on interpretation of data derived from molecular and cell biology, genome sequencing with respect to the timing and mechanism of eukaryogenesis and the endosymbiotic events leading to mitochondria and plastids.

Features

- Includes contributions from a wide range of prominent scientists from both inside and outside molecular systematics
- Presents a multidisciplinary approach to newly emerging theories
- Discusses both theoretical and methodological issues
- Provokes further debate and discussion on controversial issues within the research community

As ideas that prevailed for twenty years are being revised, updated or abandoned in the face of more sophisticated analysis of molecular sequence data, this book will prove relevant to all students and professionals working in molecular systematics, comparative genomics and cell biology.

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