1. Record Nr. UNINA9910741200003321

Titolo	Evolution of Fungi and Fungal-Like Organisms / / edited by Stefanie Pöggeler, Timothy James
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2023
ISBN	3-031-29199-9
Edizione	[2nd ed. 2023.]
Descrizione fisica	1 online resource (345 pages) : illustrations (black and white, and color)
Collana	The Mycota, A Comprehensive Treatise on Fungi as Experimental Systems for Basic and Applied Research, , 2945-8056 ; ; 14
Altri autori (Persone)	PoggelerStefanie JamesTimothy Yong <1973->
Disciplina	579.5138
Soggetti	Fungi Mycology Microbiology Evolutionary genetics Evolution (Biology) Microbial genetics Evolutionary Genetics Evolutionary Biology Microbial Genetics Fongs Evolució (Biologia) Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Part I. Evolutionary Roots of Fungi -- Chapter 1. The Protistan Origins of Animals and Fungi -- Chapter 2. Evolution of Signalling and Morphogenesis in the Dictyostelids -- Chapter 3. The Evolution of Mitochondrial Genomes in Fungi -- Part II. Evolution of Pathogenic Strategies -- Chapter 4. Dimorphism and Pathogenesis in Mucor Species -- Chapter 5. Genome Evolution in Fungal Plant Pathogens: From Populations to Kingdom-Wide Dynamics -- Chapter 6. Host Switching and Geographic Expansions in (Hemi) Biotrophic Plant

Pathogens -- Part III. Evolution of Mutualistic Interactions -- Chapter 7. Mycoviruses -- Chapter 8. Bacterial Endosymbionts of Mucoromycota Fungi: Diversity and Function of Their Interactions -- Chapter 9. Fungi and Their Environmental Micropredators -- Chapter 10. Global Fungal Diversity Estimated from High-Throughput Sequencing -- Part IV. Evolution of Metabolism and Development -- Chapter 11. Activation of Secondary Metabolite Production in Fungi.-Chapter 12. Evolution and Diversity of Bioluminescent Fungi -- Chapter 13. Paedomorphosis and Sequestrate Basidiomycete.

Sommario/riassunto

Sequence analyses of numerous fungal genomes over the past two decades have provided us with extensive insights into the phylogenetic relationships of fungi and the distribution of genes and their inferred functions, across the fungal kingdom. It is now possible to answer questions about the origin of the fungal kingdom and fungal evolution with an analytical precision that was not possible before. This fully revised and updated 2nd edition of The Mycota, Vol. 14, addresses major aspects of fungal evolution. The book is divided into four sections covering the following main topics: • Evolutionary roots of fungi • Evolution of pathogenic strategies • Evolution of mutualistic interactions • Evolution of metabolism and development in fungi Fungi are among the oldest eukaryotic groups in the living world. The aim of this book is to better understand the history and importance of fungi, as well as the characteristics that distinguish them from their sister group, the metazoans, and other fungus-like groups such as the slime molds and oomycetes. Many fungal species are important pathogens of animals and plants and have distinct but parallel pathogenicity strategies. Mutualistic interactions of fungi with other organisms are crucial for their survival in different ecological niches and have a great influence on their evolution and the design of their genomes. Metabolism is one of the most important features of life, and the diversity of metabolic processes is best understood by considering evolution. Studies of fungal metabolism have traditionally focused on metabolites of particular interest, namely mycotoxins, pathogenicity factors, antibiotics, and other compounds with interspecific activity. This volume will be of great interest to mycologists, evolutionary biologists, and fungal geneticists, as well as to lecturers and students of microbiology and mycology.