

Preface

Biological diversity or biodiversity, according to the United Nations Convention on Biological Diversity, "means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part" and includes genetic diversity, species diversity, and ecological diversity. Authors trying to estimate the number of extant yeast species usually come to the conclusion that, similarly to other groups of microorganisms, a very small proportion of the yeasts, possibly only 1% of the species, have been described.

Studies on "yeast biodiversity" are more focused on taxonomic inventories, with emphasis on the description of novel species. Approximately 30% of known yeast species were described from a single strain, and information about the ecology and the genetic and physiological variability of these yeasts is missing or incomplete.

In the last few decades an increasing number of new yeast habitats have been explored. As a result, a large body of ecological information has been accumulated and the number of known yeast species has increased rapidly. The volume "Biodiversity and ecophysiology of yeasts" provides a comprehensive and up-to-date overview of several areas in the field of yeast biodiversity and ecology. The chapters are written by respected experts in various fields. The first chapters approach yeast biodiversity from different points of view, including phylogenetics and genomics. Some aspects of sugar and nitrogen metabolism are also discussed. Separate chapters are devoted to stress responses of yeasts, to environmental factors influencing them, to antagonistic interactions among them, to methods used for investigating yeast biodiversity, and to the role of culture collections in handling the ever-increasing number of yeast strains and relevant data.

The chapters dealing with yeast communities from different habitats include reviews on yeasts from invertebrates, the phylloplane, soil, freshwater and marine ecosystems, cactophilic communities, as well as Antarctic and tropical forest ecosystems. In some chapters the effect of human activity on yeast communities is also considered. The black yeasts are treated in a separate chapter, and finally the role of yeast biodiversity in biotechnology is reviewed.

We gratefully acknowledge the contributors to this book. We hope that it will provide a useful overview of the biodiversity and ecophysiology of yeasts, and that it will stimulate increasing efforts in yeast biodiversity research.

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May 2005