

# Contents

Dedication, *vii*

Introduction, 1

E. CERDÁ-OLMEDO AND E.D. LIPSON

1. A Biography of *Phycomyces*, 7

E. CERDÁ-OLMEDO AND E.D. LIPSON

2. Genetics, 27

ARTURO P. ESLAVA

3. Light Physiology of *Phycomyces* Sporangiohores, 49

P. GALLAND AND E.D. LIPSON

4. Photoreceptor Biology of *Phycomyces*, 93

D.E. PRESTI AND P. GALLAND

5. Sporangiohore and Mycelial Responses to Stimuli Other Than Light,  
127

W. SHROPSHIRE, JR. AND J.-F. LAFAY

6. Metabolic Pathways, 155

W. HILGENBERG, P.V. BURKE, AND G. SANDMANN

7. Carotene, 199

E. CERDÁ-OLMEDO

8. The Cell Wall of *Phycomyces*, 223

R.I. GAMOW, J.R. HERRERA, AND E.P. FISCHER

9. The Sporangiospore: Dormancy and Germination, 247

A.J. VAN LAERE, B. FURCH, AND J.A. VAN ASSCHE

10. Differentiation and Cytology, 281

P. GALLAND AND T. OOTAKI

11. Sexual Development, 317

R.P. SUTTER



Appendixes

1. Standard Growth Conditions and Variations, 337  
E. CERDÁ-OLMEDO
2. Mutagenesis, 341  
E. CERDÁ-OLMEDO
3. Heterokaryon Formation, 345  
T. OOTAKI
4. Protoplast Formation and Fusion, 351  
T. SUÁREZ, J. ARNAU, M. OREJAS, AND S. TORRES-MARTÍNEZ
5. Quantitative Genetic Interactions, 355  
J.R. MEDINA
6. Crosses, 361  
A.P. ESLAVA AND M.I. ALVAREZ
7. Measurement of *Phycomyces* Light Responses, 367  
E.D. LIPSON AND P. GALLAND
8. Light Calibrations and Radiometric Units, 375  
P. GALLAND AND E.D. LIPSON

Bibliography, 381  
W. SHROPSHIRE, JR.

Subject Index, 421