

OVERVIEW OF KINGDOM FUNGI

- 829–837 Research Coordination Networks: a phylogeny for kingdom Fungi (Deep Hypha) • MEREDITH BLACKWELL, DAVID S. HIBBETT, JOHN W. TAYLOR & JOSEPH W. SPATAFORA
- 838–849 Dating divergences in the Fungal Tree of Life: review and new analyses • JOHN W. TAYLOR & MARY L. BERBEE
- 850–859 Assembling the Fungal Tree of Life: constructing the structural and biochemical database • G.J. CELIO, M. PADAMSEE, B.T.M. DENTINGER, R. BAUER & D.J. McLAUGHLIN

EARLY DIVERGING LINEAGES

- 860–871 A molecular phylogeny of the flagellated fungi (Chytridiomycota) and description of a new phylum (Blastocladiomycota) • TIMOTHY Y. JAMES, PETER M. LETCHER, JOYCE E. LONGCORE, SHARON E. MOZLEY-STANDRIDGE, DAVID PORTER, MARTHA J. POWELL, GARETH W. GRIFFITH & RYTAS VILGALYS
- 872–884 Phylogeny of the Zygomycota based on nuclear ribosomal sequence data • MERLIN M. WHITE, TIMOTHY Y. JAMES, KERRY O'DONNELL, MATÍAS J. CAFARO, YUHIKO TANABE & JUNTA SUGIYAMA
- 885–895 Phylogeny of the Glomeromycota (arbuscular mycorrhizal fungi): recent developments and new gene markers • DIRK REDECKER & PHILIPP RAAB

BASIDIOMYCOTA

- 896–905 An overview of the higher-level classification of Pucciniomycotina based on combined analyses of nuclear large and small subunit rDNA sequences • M. CATHERINE AIME, P. BRANDON MATHENY, DANIEL A. HENK, ELIZABETH M. FRIEDERS, R. HENRIK NILSSON, MEIKE PIEPENBRING, DAVID J. McLAUGHLIN, LES J. SZABO, DOMINIK BEGEROW, JOSÉ PAULO SAMPAIO, ROBERT BAUER, MICHAEL WEIB, FRANZ OBERWINKLER & DAVID S. HIBBETT
- 906–916 A phylogenetic hypothesis of Ustilaginomycotina based on multiple gene analyses and morphological data • DOMINIK BEGEROW, MATTHIAS STOLL & ROBERT BAUER
- 917–925 A phylogenetic overview of the Agaricomycotina • DAVID S. HIBBETT
- 926–936 Hymenochaetales: a molecular phylogeny for the hymenochaetoid clade • KARL-HENRIK LARSSON, ERAST PARMASO, MICHAEL FISCHER, EWALD LANGER, KAREN K. NAKASONE & SCOTT A. REDHEAD
- 937–948 The cantharelloid clade: dealing with incongruent gene trees and phylogenetic reconstruction methods • JEAN-MARC MONCALVO, R. HENRIK NILSSON, BRENDA KOSTER, SUSIE M. DUNHAM, TORSTEN BERNAUER, P. BRANDON MATHENY, TERESITA M. PORTER, SIMONA MARGARITescu, MICHAEL WEIB, SIGISFREDO GARNICA, ERIC DANELL, GITTA LANGER, EWALD LANGER, ELLEN LARSSON, KARL-HENRIK LARSSON & RYTAS VILGALYS
- 949–959 Molecular phylogenetics of the gomphoid-phalloid fungi with an establishment of the new subclass Phallomycetidae and two new orders • KENTARO HOSAKA, SCOTT T. BATES, ROSS E. BEEVER, MICHAEL A. CASTELLANO, WESLEY COLGAN III, LAURA S. DOMÍNGUEZ, EDUARDO R. NOUHRA, JÓZSEF GEML, ADMIR J. GIACHINI, S. RAY KENNEY, NICHOLAS B. SIMPSON, JOSEPH W. SPATAFORA & JAMES M. TRAPPE
- 960–970 Perspectives in the new Russulales • STEVEN L. MILLER, ELLEN LARSSON, KARL-HENRIK LARSSON, ANNEMIEKE VERBEKEN & JORINDE NUYTINCK
- 971–981 Molecular systematics and biological diversification of Boletales • MANFRED BINDER & DAVID S. HIBBETT
- 982–995 Major clades of Agaricales: a multilocus phylogenetic overview • P. BRANDON MATHENY, JUDD M. CURTIS, VALÉRIE HOFSTETTER, M. CATHERINE AIME, JEAN-MARC MONCALVO, ZAI-WEI GE, ZHU-LIANG YANG, JASON C. SLOT, JOSEPH F. AMMIRATI, TIMOTHY J. BARONI, NEALE L. BOUGHER, KAREN W. HUGHES, D. JEAN LODGE, RICHARD W. KERRIGAN, MICHELLE T. SEIDL, DUUR K. AANEN, MATTHEW DeNITIS, GRACIELA M. DANIELE, DENNIS E. DESJARDIN, BRADLEY R. KROPP, LORELEI L. NORVELL, ANDREW PARKER, ELSE C. VELLINGA, RYTAS VILGALYS & DAVID S. HIBBETT

ASCOMYCOTA

- 996–1005 Early diverging Ascomycota: phylogenetic divergence and related evolutionary enigmas • JUNTA SUGIYAMA, KENTARO HOSAKA & SUNG-OUI SUH
- 1006–1017 Phylogenetics of Saccharomycetales, the ascomycete yeasts • SUNG-OUI SUH, MEREDITH BLACKWELL, CLETUS P. KURTZMAN & MARC-ANDRÉ LACHANCE
- 1018–1028 A five-gene phylogeny of Pezizomycotina • JOSEPH W. SPATAFORA, GI-HO SUNG, DESIREE JOHNSON, CEDAR HESSE, BENJAMIN O'ROURKE, MARYNA SERDANI, ROBERT SPOTTS, FRANÇOIS LUTZONI, VALÉRIE HOFSTETTER, JOLANTA MIADLIKOWSKA, VALÉRIE REEB, CÉCILE GUEIDAN, EMILY FRAKER, THORSTEN LUMBSCH, ROBERT LÜCKING, IMKE SCHMITT, KENTARO HOSAKA, ANDRÉ APTROOT, CLAUDE ROUX, ANDREW N. MILLER, DAVID M. GEISER, JOSEF HAFELLNER, GEIR HESTMARK, A. ELIZABETH ARNOLD, BURKHARD BÜDEL, ALEXANDRA RAUHUT, DAVID HEWITT, WENDY A. UNTEREINER, MARIETTE S. COLE, CHRISTOPH SCHEIDEGGER, MATTHIAS SCHULTZ, HARRIE SIPMAN & CONRAD L. SCHOCH
- 1029–1040 Systematics of the Pezizomycetes—the operculate discomycetes • K. HANSEN & D.H. PFISTER



TABLE OF CONTENTS (CONTINUED)

- 1041–1052 A multigene phylogeny of the Dothideomycetes using four nuclear loci • **CONRAD L. SCHOCH, ROBERT A. SHOEMAKER, KEITH A. SEIFERT, SARAH HAMBLETON, JOSEPH W. SPATAFORA & PEDRO W. CROUS**
- 1053–1064 Eurotiomycetes: Eurotiomycetidae and Chaetothyriomycetidae • **DAVID M. GEISER, CÉCILE GUEIDAN, JOLANTA MIADLIKOWSKA, FRANÇOIS LUTZONI, FRANK KAUFF, VALÉRIE HOFSTETTER, EMILY FRAKER, CONRAD L. SCHOCH, LEIF TIBELL, WENDY A. UNTEREINER & ANDRÉ APTROOT**
- 1065–1075 Toward a phylogenetic classification of the Leotiomycetes based on rDNA data • **ZHENG WANG, PETER R. JOHNSTON, SUSUMU TAKAMATSU, JOSEPH W. SPATAFORA & DAVID S. HIBBETT**
- 1076–1087 An overview of the systematics of the Sordariomycetes based on a four-gene phylogeny • **NING ZHANG, LISA A. CASTLEBURY, ANDREW N. MILLER, SABINE M. HUHDORF, CONRAD L. SCHOCH, KEITH A. SEIFERT, AMY Y. ROSSMAN, JACK D. ROGERS, JAN KOHLMAYER, BRIGITTE VOLKMANN-KOHLMEYER & GI-HO SUNG**
- 1088–1103 New insights into classification and evolution of the Lecanoromycetes (Pezizomycotina, Ascomycota) from phylogenetic analyses of three ribosomal RNA- and two protein-coding genes • **JOLANTA MIADLIKOWSKA, FRANK KAUFF, VALÉRIE HOFSTETTER, EMILY FRAKER, MARTIN GRUBE, JOSEF HAFELLNER, VALÉRIE REEB, BRENDAN P. HODKINSON, MARTIN KUKWA, ROBERT LÜCKING, GEIR HESTMARK, MONICA GARCIA OTALORA, ALEXANDRA RAUHUT, BURKHARD BÜDEL, CHRISTOPH SCHEIDEGGER, EINAR TINDAL, SOILI STENROOS, IRWIN BRODO, GARY B. PERLMUTTER, DAMIEN ERTZ, PAUL DIEDERICH, JAMES C. LENDEMER, PHILIP MAY, CONRAD L. SCHOCH, A. ELIZABETH ARNOLD, CÉCILE GUEIDAN, ERIN TRIPP, REBECCA YAHR, CONNIE ROBERTSON & FRANÇOIS LUTZONI**

WITH GRATITUDE

1104–1105

SUBSCRIPTION PRICE (2006 rates): \$213.00 U.S. and Canada; \$230.00 elsewhere for hardcopy and access to *Mycologia* on-line. Subscription to *Mycologia* on-line only (no hardcopy) is \$180.00. Subscriptions entered on a calendar year basis only (JAN–DEC) for the current volume unless otherwise specified. Cancellations not accepted. Remittances (U.S. currency only and either drawn on a U.S. bank or made out by international money order) should be made to MYCOLOGIA and mailed to **The Mycological Society of America, P.O. Box 1897, Lawrence, KS 66044-8897 USA.**

ADDRESS CHANGES AND CLAIMS: All questions regarding claims and changes of address should be directed to The Mycological Society of America, P.O. Box 1897, Lawrence, KS 66044-8897 USA. Allow eight weeks for change to become effective. **Claims** for missing issues must be made within one year from date of issue. Non-USA deliveries at subscriber's risk. Non-USA subscribers may purchase replacement copies at 20% discount.

FOR INFORMATION ABOUT MEMBERSHIP in the Mycological Society of America, contact the Secretary, Catherine Aime, USDA-ARS Systematic Botany and Mycology Lab, Bldg 011A Rm 319 BARC-WEST, 10300 Baltimore Ave., Beltsville, MD 20705. E-mail: cathie@nt.ars-grin.gov

Demonstration Manuscript and Instructions to Authors appear in the JAN–FEB issue of this volume.

© The Mycological Society of America 2006
Library of Congress Catalog Card Number 57-51730
Printed by Allen Press, Inc., Lawrence, Kansas 66044, USA

All material subject to this copyright appearing in *Mycologia* may be photocopied for the noncommercial purpose of scientific and educational advancement.

Mycologia (ISSN 0027-5514) is published bimonthly for \$213.00 per year for U.S. orders and \$230.00 per year for non-U.S. orders by The Mycological Society of America, 810 East 10th Street, Lawrence, KS 66044-8897. Periodicals postage paid at Lawrence, KS. POSTMASTER: send address changes to The Mycological Society of America, 810 East 10th Street, Lawrence, KS 66044-8897 USA.

THIS PUBLICATION IS PRINTED ON ACID-FREE PAPER