



HAL
open science

Reply to Kidd et al., “Inconsistencies within the proposed framework for stabilizing fungal nomenclature risk further confusion”

Sybren de Hoog, Thomas J Walsh, Sarah A Ahmed, Ana Alastruey-Izquierdo, Barbara D Alexander, Maiken Cavling Arendrup, Esther Babady, Feng-Yan Bai, Joan-Miquel Balada-Llasat, Andrew Borman, et al.

► To cite this version:

Sybren de Hoog, Thomas J Walsh, Sarah A Ahmed, Ana Alastruey-Izquierdo, Barbara D Alexander, et al.. Reply to Kidd et al., “Inconsistencies within the proposed framework for stabilizing fungal nomenclature risk further confusion”. *Journal of Clinical Microbiology*, 2024, 62 (4), pp.e0162523. 10.1128/jcm.01625-23 . hal-04645236

HAL Id: hal-04645236

<https://univ-rennes.hal.science/hal-04645236v1>

Submitted on 11 Jul 2024

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Copyright

Reply

Reply to Kidd et al., “Inconsistencies within the proposed framework for stabilizing fungal nomenclature risk further confusion”

Sybre de Hoog,^{1,2,3,4,5,6} Thomas J. Walsh,^{6,7,8,9,10,11,12,13,14,15} Sarah A. Ahmed,^{1,2,6} Ana Alastruey-Izquierdo,^{6,16,17} Barbara D. Alexander,^{10,14,18} Maiken Cavling Arendrup,^{19,20,21} Esther Babady,^{10,22} Feng-Yan Bai,^{23,24,25,26,27,28} Joan-Miquel Balada-Llasat,^{10,29} Andrew Borman,³⁰ Anuradha Chowdhary,^{17,31} Andrew Clark,^{10,32} Robert C. Colgrove,^{33,34} Oliver A. Cornely,^{12,17,35,36} Tanis C. Dingle,^{10,13,37} Philippe J. Dufresne,^{10,13,38} Jeff Fuller,^{10,39} Jean-Pierre Gangneux,^{12,40} Connie Gibas,⁴¹ Heather Glasgow,^{10,13,42} Yvonne Graser,⁴³ Jacques Guillot,^{27,44} Andreas H. Groll,^{17,45} Gerhard Haase,⁴⁶ Kimberly Hanson,^{10,47} Amanda Harrington,^{10,48} David L. Hawksworth,^{49,50,51,52,53,54} Randall T. Hayden,^{10,13,42} Martin Hoenigl,^{11,12,55,56,57} Vit Hubka,⁵⁸ Kristie Johnson,^{10,59} Julianne V. Kus,^{10,60,61} Ruoyu Li,^{3,5,15,17,21,25} Jacques F. Meis,^{1,15,35,36} Michaela Lackner,^{6,62} Fanny Lanternier,⁶³ Sixto M. Leal Jr.,^{10,11,13,64} Francesca Lee,^{10,32} Shawn R. Lockhart,^{1,10,57,65} Paul Luethy,^{10,59} Isabella Martin,^{10,66} Kyung J. Kwon-Chung,⁶⁷ Wieland Meyer,^{9,68} M. Hong Nguyen,^{10,11,14,69} Luis Ostrosky-Zeichner,^{11,70} Elizabeth Palavecino,^{10,71} Preeti Pancholi,^{10,29} Peter G. Pappas,^{10,11,64} Gary W. Procop,^{10,13,72,73} Scott A. Redhead,^{9,74} Daniel D. Rhoads,^{75,76,77} Stefan Riedel,^{10,78} Bryan Stevens,^{10,69} Kaede Ota Sullivan,^{10,79} Paschalis Vergidis,^{10,80} Emmanuel Roilides,^{6,12,17,81} Amir Seyedmousavi,^{10,17,27,82} Lili Tao,^{10,83} Vania A. Vicente,⁴ Roxana G. Vitale,^{84,85} Qi-Ming Wang,⁸⁶ Nancy L. Wengenack,^{10,80} Lars Westblade,^{10,87} Nathan Wiederhold,^{10,11,13,14,41} Lewis White,⁸⁸ Christina M. Wojewoda,⁸⁹ Sean X. Zhang^{6,10,90}

AUTHOR AFFILIATIONS See affiliation list on p. 2.

We would like to thank Kidd et al. for their thoughtful comments on our manuscript about a proposed global consensus guideline for fungal name changes published in the *Journal of Clinical Microbiology* (1). We would also like to take this opportunity to further explain our position and clarify the intent of this work. The proposed International Nomenclature Committee for Clinical Fungi neither wishes to impede name changes, nor prescribe or arbitrate nomenclatural questions.

Our main goal is to achieve broad acceptance of changes that are beneficial to science and patient care. We strongly believe that the best means to achieve this important objective is to consider the clinical utility of nomenclature, provide an understanding of the reasons for the change, and how it could improve clinical management. In particular, the needs of clinical laboratories, which are important stakeholders dealing with the consequences of fungal name changes on a daily basis, have been largely neglected to date. Early and collaborative involvement of all stakeholders leads to faster acceptance, while sudden and unexplained name changes, even when necessary, lead to reluctance and clinical risk. We acknowledge different viewpoints toward fungal nomenclature and taxonomy. This underlines the proposal to form an open, international nomenclatural Working Group/Committee for clinical fungi which will provide the clinical user with the rationale for name changes and their relevance to patient care.

The nomenclatural database is made with the same intention. Existing databases such as MycoBank, Species Fungorum, and Index Fungorum cover the entire fungal Kingdom and follow the latest taxonomic literature. The clinical database was founded to bring taxonomy closer to clinical needs, which may occasionally deviate from existing databases. An illustrative example is *Trichophyton indotineae* (1). From a strictly phylogenetic perspective, this is a member of the *Trichophyton mentagrophytes* complex. Complexes, as used in clinical routine practice, are composed of sibling lineages with identical biology, having epidemiological rather than clinical significance. *Trichophyton indotineae*, although just a few barcode SNPs remote from other *Trichophyton*

Editor Alexander J. McAdam, Boston Children's Hospital, Boston, Massachusetts, USA

Address correspondence to Sean X. Zhang, szhang28@jhmi.edu, Thomas J. Walsh, thomaswalshmd@gmail.com, or Sybre de Hoog, Sybre.deHoog@radboudumc.nl.

The authors declare no conflict of interest.

This is a response to a letter by Kidd et al., <https://doi.org/10.1128/Jcm.01570-23>.

Published 5 March 2024

Copyright © 2024 American Society for Microbiology. All Rights Reserved.

mentagrophytes lineages, is clinically different from other members of the complex due to its high virulence and a high degree of antifungal resistance, and is phenotypically often urease negative. It is therefore recommended to be identified as an individual species. This certainly is a dilemma, and the decision of Tang et al to retain *T. indotineae* as a haplotype of the *T. mentagrophytes* complex (2) may be debatable; we are open to anyone's opinion.

We respectfully disagree with the statement from Kidd et al. that includes "the recommended option to continue using prior (now obsolete) *Candida* names appears inconsistent with the statement that the '[*Candida*] genus in the traditional sense is untenable.'" These new names, which may be valid, do not make old names obsolete, particularly within a clinical context where antifungal susceptibility testing and treatment guidelines maintain the continuity of patient care. Another misunderstanding concerns the "recommending two names is against established One Fungus One Name rule." The "one fungus one name" concept addresses the unification of the anamorph and teleomorph phase of a fungus. Our proposal of reporting both old and new names (irrespective of life phase) will simply enable the smooth transition and connection of knowledge affiliated with the old and new names. Furthermore, the statement "given that some of the article's authors (and us) are affiliated with the International Mycological Association Nomenclature Committee for Fungi" is not accurate. The Nomenclature Committee for Fungi is not part of the International Mycology Association (IMA).

Our proposed global consensus guideline for fungal name changes is endorsed by 11 professional societies that are involved in medical mycology, laboratory diagnosis, and fungal diseases. The endorsement was achieved through a rigorous review process by representatives from each society. The upcoming International Nomenclature Committee for Clinical Fungi (<https://www.isham.org/working-groups/nomenclature-clinical-fungi>) includes taxonomists, medical mycologists, clinical microbiologists, infectious disease physicians, pharmacists, pathologists, and veterinary mycologists, representing 18 professional societies as well as industry partners who provide fungal databases for identification through their commercial platforms. Therefore, this committee is thus far the most internationally inclusive committee representing global efforts to address name changes of clinical fungi. In fact, we note that several lead authors from the letter from Kidd et al. are already members of this committee, and thus we anticipate that the different viewpoints on fungal nomenclature and taxonomy will be robustly discussed within the committee. Moreover, the development of evidence-based multifactorial criteria to guide the discussion and determination of fungal name changes for clinical usage is in process and will be reviewed and commented on by all committee members.

In summary, we hope that different disciplines involved in medical mycology will come together in an atmosphere of open discussion. We remain aware that any recommendation made by the committee will continue to evolve as new data or viewpoints become available.

AUTHOR AFFILIATIONS

¹Radboudumc-CWZ Centre of Expertise for Mycology, Nijmegen, the Netherlands

²Foundation Atlas of Clinical Fungi, Hilversum, the Netherlands

³Department of Dermatology and Venereology, Peking University First Hospital, Beijing, China

⁴Department of Basic Pathology, Federal University of Paraná, Curitiba, Brazil

⁵Research Center for Medical Mycology, Peking University, Beijing, China

⁶International Society for Human and Animal Mycology (ISHAM), Working Group Nomenclature, 's-Hertogenbosch, the Netherlands

⁷Center for Innovative Therapeutics and Diagnostics, Richmond, Virginia, USA

⁸University of Maryland School of Medicine, Baltimore, Maryland, USA

⁹Nomenclature Committee for Fungi, International Mycological Association (IMA), Exeter, United Kingdom

¹⁰Fungal Diagnostics Laboratory Consortium (FDLC), Baltimore, Maryland, USA

- ¹¹Mycoses Study Group, Education and Research Consortium (MSG-ERC), Pittsburgh, Pennsylvania, USA
- ¹²European Confederation of Medical Mycology (ECMM), 's-Hertogenbosch, the Netherlands
- ¹³Clinical and Laboratory Standards Institute (CLSI), Pittsburgh, Pennsylvania, USA
- ¹⁴Medical Mycological Society of the Americas (MMSA)
- ¹⁵ISHAM Working Group on Diagnostics, Basel, Switzerland
- ¹⁶Mycology Reference Laboratory, Spanish National Centre for Microbiology, Madrid, Spain
- ¹⁷Fungal Infection Study Group, European Society of Clinical Microbiology and Infectious Diseases (EFISG/ESCMID), Basel, Switzerland
- ¹⁸Departments of Medicine and Pathology, Duke University, Durham, North Carolina, USA
- ¹⁹Department of Microbiology and Infection Control, Statens Serum Institut, Copenhagen, Denmark
- ²⁰Department of Clinical Microbiology, Copenhagen University Hospital Rigshospitalet, Copenhagen, Denmark
- ²¹Antifungal Susceptibility Testing Subcommittee of European Committee of Antimicrobial Susceptibility Testing (EUCAST-AFST)
- ²²Department of Pathology and Laboratory Medicine, Clinical Microbiology Service, Memorial Sloan Kettering Cancer Center, New York, New York, USA
- ²³Mycology Committee of Chinese Society for Microbiology, Beijing, China
- ²⁴Institute of Microbiology, State Key Laboratory of Mycology, Chinese Academy of Sciences, Beijing, China
- ²⁵Medical Mycology Society of Chinese Medicine and Education Association
- ²⁶Asia Pacific Society for Medical Mycology
- ²⁷ISHAM Working Group Veterinary Mycology and One Health, 's-Hertogenbosch, the Netherlands
- ²⁸Mycological Society of China (MSC)
- ²⁹Clinical Microbiology at The Ohio State University Wexner Medical Center, Columbus, Ohio, USA
- ³⁰National Mycology Reference Laboratory, Public Health England, Bristol, United Kingdom
- ³¹Department of Microbiology, National Reference Laboratory for Antimicrobial Resistance in Fungal Pathogens, Medical Mycology Unit, Vallabhbhai Patel Chest Institute, University of Delhi, Delhi, India
- ³²University of Texas Southwestern Medical Center, Dallas, Texas, USA
- ³³Division of Infectious Diseases, Mount Auburn Hospital, Cambridge, Massachusetts, USA
- ³⁴Infectious Diseases Society of America (ISDA), Arlington, Virginia, USA
- ³⁵University of Cologne, Faculty of Medicine, Institute of Translational Research, Cologne Excellence Cluster on Cellular Stress Responses in Aging-Associated Diseases, Cologne, Germany
- ³⁶Department I of Internal Medicine, University of Cologne, Excellence Center for Medical Mycology, Cologne, Germany
- ³⁷Alberta Precision Laboratories, Public Health Laboratory, Calgary, Alberta, Canada
- ³⁸Department of Mycology, Laboratoire de Santé Publique du Québec, Institut National de Santé Publique du Québec (INSPQ), Sainte-Anne-de-Bellevue, Québec, Canada
- ³⁹Department of Pathology and Laboratory Medicine, London Health Sciences Center, London, Ontario, Canada
- ⁴⁰Department of Mycology, Centre Hospitalier Universitaire de Rennes, Rennes, France
- ⁴¹University of Texas Health Science Center, San Antonio, Texas, USA
- ⁴²Department of Pathology, Clinical and Molecular Microbiology, St. Jude Children's Research Hospital, Memphis, Tennessee, USA
- ⁴³Department of Parasitology (Charité), Institute of Microbiology and Hygiene, Humboldt University, Berlin, Germany

- ⁴⁴Onoris, École Nationale Vétérinaire, Agroalimentaire et de l'Alimentation Nantes-Atlantique, Nantes, France
- ⁴⁵Department of Pediatric Hematology and Oncology, Infectious Disease Research Program, Center for Bone Marrow Transplantation, University Children's Hospital, Münster, Germany
- ⁴⁶Laboratory Diagnostic Center, RWTH Aachen University Hospital, Aachen, Germany
- ⁴⁷University of Utah School of Medicine, Salt Lake City, Utah, USA
- ⁴⁸Loyola University Health System, Loyola University Chicago, Maywood, Illinois, USA
- ⁴⁹Royal Botanic Gardens, Kew, Richmond, Surrey, United Kingdom
- ⁵⁰Natural History Museum, London, United Kingdom
- ⁵¹University of Southampton, Southampton, United Kingdom
- ⁵²Jilin Agricultural University, Chanchung, China
- ⁵³General Committee for Nomenclature, International Botanical Congress (IBC)
- ⁵⁴Advisory Board of International Commission on the Taxonomy of Fungi (ICTF)
- ⁵⁵Division of Infectious Diseases, Medical University of Graz, Graz, Austria
- ⁵⁶Translational Medical Mycology Research Unit, ECMM Excellence Center for Medical Mycology, Medical University of Graz, Graz, Austria
- ⁵⁷European Hematology Association, Specialized Working Group for Infections in Hematology, The Hague, the Netherlands
- ⁵⁸Department of Botany, Charles University, Prague, Czechia
- ⁵⁹Clinical Microbiology Laboratory, UMMC Laboratories of Pathology, University of Maryland School of Medicine, Baltimore, Maryland, USA
- ⁶⁰Public Health Ontario, Toronto, Ontario, Canada
- ⁶¹Department of Laboratory Medicine and Pathobiology, Canada and University of Toronto, Toronto, Ontario, Canada
- ⁶²Institute of Hygiene and Medical Microbiology, Medical University of Innsbruck, Innsbruck, Austria
- ⁶³Institut Pasteur, Paris, France
- ⁶⁴University of Alabama at Birmingham, Birmingham, Alabama, USA
- ⁶⁵Centers for Disease Control and Prevention, Atlanta, Georgia, USA
- ⁶⁶Dartmouth Health, Lebanon, New Hampshire, USA
- ⁶⁷National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, Maryland, USA
- ⁶⁸Westerdijk Fungal Biodiversity Institute, Utrecht, the Netherlands
- ⁶⁹University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania, USA
- ⁷⁰University of Texas Health Science Center at Houston, Houston, Texas, USA
- ⁷¹Clinical Microbiology Laboratory, Wake Forest Baptist Medical Center, Winston-Salem, North Carolina, USA
- ⁷²The American Board of Pathology, Tampa, Florida, USA
- ⁷³American Board of Pathology (ABP), Chicago, Illinois, USA
- ⁷⁴National Mycological Herbarium, Ottawa Research and Development Centre, Science and Technology Branch, Agriculture & Agri-Food Canada, Ottawa, Ontario, Canada
- ⁷⁵Cleveland Clinic Lerner College of Medicine, Case Western Reserve University, Cleveland, Ohio, USA
- ⁷⁶Department of Laboratory Medicine, Cleveland Clinic, Cleveland, Ohio, USA
- ⁷⁷Infection Biology Program, Lerner Research Institute, Cleveland Clinic, Cleveland, Ohio, USA
- ⁷⁸Beth Israel Deaconess Medical Center, Boston, Massachusetts, USA
- ⁷⁹Lewis Katz School of Medicine, Temple University, Philadelphia, Pennsylvania, USA
- ⁸⁰Mayo Clinic, Rochester, Minnesota, USA
- ⁸¹Hippokratation Hospital, Thessaloniki, Greece
- ⁸²Department of Laboratory Medicine, Microbiology Service, Clinical Center, National Institutes of Health, Bethesda, Maryland, USA
- ⁸³Vanderbilt University Medical Center, Nashville, Tennessee, USA

⁸⁴Consejo Nacional de Investigaciones Científicas y Tecnológicas (CONICET), Buenos Aires, Argentina

⁸⁵Unidad de Parasitología, Sector Micología, Hospital J.M. Ramos Mejía, Buenos Aires, Argentina

⁸⁶Engineering Laboratory of Microbial Breeding and Preservation of Hebei Province, School of Life Sciences, Institute of Life Sciences and Green Development, Hebei University, Baoding, China

⁸⁷Department of Pathology and Laboratory Medicine, Weill Cornell Medical College, New York, New York, USA

⁸⁸Public Health Wales Microbiology, Cardiff, United Kingdom

⁸⁹Department of Pathology and Laboratory Medicine, University of Vermont Medical Center, Burlington, Vermont, USA

⁹⁰Johns Hopkins University School of Medicine, Baltimore, Maryland, USA

AUTHOR ORCID*s*

Sybren de Hoog  <http://orcid.org/0000-0002-5344-257X>

Thomas J. Walsh  <http://orcid.org/0000-0002-4142-8711>

Ana Alastruey-Izquierdo  <http://orcid.org/0000-0001-8651-4405>

Maiken Cavling Arendrup  <http://orcid.org/0000-0002-4747-0144>

Esther Babady  <http://orcid.org/0000-0003-4399-1249>

Andrew Borman  <http://orcid.org/0000-0003-0585-5721>

Andreas H. Groll  <http://orcid.org/0000-0003-1188-393X>

Kimberly Hanson  <http://orcid.org/0000-0001-9790-277X>

Randall T. Hayden  <http://orcid.org/0000-0002-3073-4115>

Martin Hoenigl  <http://orcid.org/0000-0002-1653-2824>

Julianne V. Kus  <http://orcid.org/0000-0001-6033-7244>

Jacques F. Meis  <http://orcid.org/0000-0003-3253-6080>

Sixto M. Leal Jr.  <http://orcid.org/0000-0001-6939-9572>

Shawn R. Lockhart  <http://orcid.org/0000-0002-4383-5994>

Kyung J. Kwon-Chung  <http://orcid.org/0000-0001-6671-0994>

M. Hong Nguyen  <http://orcid.org/0000-0003-2065-3239>

Elizabeth Palavecino  <http://orcid.org/0000-0002-4525-6064>

Preeti Pancholi  <http://orcid.org/0000-0001-9053-0264>

Daniel D. Rhoads  <http://orcid.org/0000-0002-7636-5191>

Stefan Riedel  <http://orcid.org/0000-0002-0573-4957>

Paschalis Vergidis  <http://orcid.org/0000-0002-6581-3956>

Emmanuel Roilides  <http://orcid.org/0000-0002-0202-364X>

Nancy L. Wengenack  <http://orcid.org/0000-0003-2853-8219>

Nathan Wiederhold  <http://orcid.org/0000-0002-2225-5122>

Lewis White  <http://orcid.org/0000-0003-3056-4205>

Christina M. Wojewoda  <http://orcid.org/0000-0002-7761-4612>

Sean X. Zhang  <http://orcid.org/0000-0003-1166-2563>

REFERENCES

1. de Hoog S, Walsh TJ, Ahmed SA, Alastruey-Izquierdo A, Alexander BD, Arendrup MC, Babady E, Bai F-Y, Balada-Llasat J-M, Borman A, et al. 2023. A conceptual framework for nomenclatural stability and validity of medically important fungi: a proposed global consensus guideline for fungal name changes supported by ABP, ASM, CLSI, ECMM, ESCMID-EFISG, EUCAST-AFST, FDLC, IDSA, ISHAM, MMSA, and MSGERC. *J Clin Microbiol* 61:e00873-23. <https://doi.org/10.1128/jcm.00873-23>
2. Tang C, Ahmed SA, Deng S, Zhang L, Zoll J, Al-Hatmi AMS, Meis JF, Thakur R, Kang Y, de Hoog GS. 2022. Detection of emerging genotypes in *Trichophyton mentagrophytes* species complex: a proposal for handling biodiversity in dermatophytes. *Front Microbiol* 13:960190. <https://doi.org/10.3389/fmicb.2022.960190>