



A Rose by Any Other Name: Practical Updates on Microbial Nomenclature for Clinical Microbiology

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The clinical microbiology laboratory stands at the interface between basic science, including the study of phylogeny, and applications of science in the very practical world of medical care. In this context, it is important that laboratory reports balance scientific accuracy with medical utility, and it is particularly difficult to do this in the naming of microorganisms. New organisms are discovered and named, and our understanding of the relationships between known organisms improves, resulting in the reclassification and renaming of organisms as they are sorted into the correct groups. In this issue of *Journal of Clinical Microbiology*, we are pleased to provide several minireviews that are intended to help clinical microbiologists keep up-to-date with changes in nomenclature for bacteria (1), parasites (2), viruses (3), and fungi (4). Most of these minireviews focus on human pathogens, but the minireview on viruses includes those affecting nonhuman animals. An article about mycobacterial nomenclature is in preparation and will be published in *Journal of Clinical Microbiology* when available. The idea for this informative resource was proposed by Dr. Karen Carroll at the editors' meeting in 2015. The editors enthusiastically agreed these reviews would be a useful resource for clinical microbiologists, infectious diseases physicians, laboratory technologists, pharmacists, and infection preventionists, in addition to fostering discussion and teaching of trainees and students. Several editors volunteered to write the articles, and we plan to update these minireviews every 2 years if they prove to be as useful as we expect.

The goal of these reviews is to provide clinical laboratories with an easy source of information on new species recovered from human clinical material and a reference for significant, clinically relevant taxonomic changes. These are not intended to be encyclopedic, comprehensive lists of all new species discovered within the established time frame, as the clinical importance of many newly discovered organisms has not yet been determined. The authors recognize that there may be omissions, and this is understandable given the dramatic advancements in sequencing technologies and microbiome discoveries. It is hoped that the articles will be a practical summary of species likely to be encountered as databases for matrix-assisted laser desorption ionization–time of flight mass spectrometry and DNA sequencing expand and investigators identify emerging pathogens and reclassify organisms that were previously misclassified.

The authors hope that the summaries will facilitate compliance with the 2014 College of American Pathologists (CAP) accreditation program checklist standard MIC.11375 (5). The standard requires laboratories to assimilate “taxonomic changes that potentially affect the choice of appropriate antimicrobials to report and/or the inter-

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pretative breakpoints to use.” In addition, it is anticipated that the biennial reviews will highlight the epidemiology of newly discovered pathogens, functioning as handy reference material for a variety of educational purposes.

One of the main readerships we hope to engage is the medical technologists in the clinical microbiology laboratory. These updates could serve as continuing education resources and lead to laboratory updates and discussions of reporting in the medical record. Taxonomy and the changes for the reporting in the microbiology laboratory can be confusing, and it is often a difficult task to change reporting when clinicians at an institution are especially used to one name. One example of this is *Pseudallescheria boydii*, the teleomorphic name of this fungus. However, only the anamorphic phase can be cultivated in a clinical microbiology laboratory. To comply with CAP standards, the organism is increasingly reported as *Scedosporium*. This can be difficult for clinical staff to understand and raises the question of whether it is easier to simply keep descriptions the way they are for familiarity or to report them in a more purist manner that is consistent with strict taxonomy.

The promise for these articles is not only as a resource for recent name changes that are pertinent to the clinical laboratory in care of patients but also as a valuable resource for teaching clinical microbiology. Formal and informal interactions between the laboratory and clinicians will benefit from summaries of recent changes and an understanding of the context of these changes.

We hope these articles will be useful and encourage readers to contact us to tell us how they are using these and how we might improve them in future versions.

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