

## XVIII INTERNATIONAL BOTANICAL CONGRESS

Major changes to the *Code of Nomenclature*—Melbourne, July 2011John McNeill<sup>1</sup> & Nicholas J. Turland<sup>2</sup>

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## ■ INTRODUCTION

When decisions of a Nomenclature Section of an International Botanical Congress (IBC) are presented in *Naturenews* (Cressey, 2011) and prompt an editorial in the journal itself (Origin of species, 2011) they must be of unusual significance. This was indeed the case for several of those taken at the recent XVIII IBC in Melbourne, Australia.

Changes to the *International Code of Botanical Nomenclature* (McNeill & al., 2006) require the decision of a plenary session of an IBC as proposed by its Nomenclature Section. The Nomenclature Section of the XVIII IBC met from 18 to 22 July 2011 in the University of Melbourne, and its decisions were approved by the final plenary session of that Congress on 30 July 2011, taking immediate effect except where otherwise limited (see below). We outline here the most-significant changes in the *Code* and introduce three other papers presenting in more detail the nature and implications of some of the decisions taken. Full details of the decisions of the Nomenclature Section on all the published proposals and of additional proposals made and accepted in Melbourne, along with the results of the preliminary mail vote, also appear in this issue (McNeill & al., 2011).

■ TITLE—NO MORE THE *ICBN*

Reflecting the view, particularly amongst mycologists, that the word “Botanical” was misleading and could imply that the *Code* covered only green plants and excluded fungi and diverse algal lineages, it was agreed that the name be changed from *International Code of Botanical Nomenclature* to *International Code of Nomenclature for algae, fungi, and plants*. There was never formal recognition of “*ICBN*” as an abbreviation for the former title and none was proposed for the new title, but the abbreviation “*ICN*” does not compete with the abbreviations of any of the other codes of biological nomenclature.

## ■ ELECTRONIC PUBLICATION OF ALL NOMENCLATORIAL ACTS PERMITTED FROM 1 JANUARY 2012

The Nomenclature Section approved overwhelmingly the series of proposals prepared by the Special Committee on Electronic Publication set up by the Vienna Congress in 2005 (Chapman & al., 2010). This means that it will no longer be necessary

for new names of plants, fungi, and algae (and designations of types) to appear in printed matter in order to be effectively published—effective publication being a fundamental requirement of the *Code* for acceptance of any nomenclatorial act. As an alternative, publication online in Portable Document Format (PDF) in a publication with an International Standard Serial Number (ISSN) or International Standard Book Number (ISBN) will be permitted. The Special Committee had proposed 1 January 2013 as the starting date for the new rules (the beginning of the year following the expected publication of the new *Code*), but the Section believed implementation so important that it decided to bring the date forward to 1 January 2012.

Rules were also approved to prevent changes to a particular electronic publication once it is issued, to prevent preliminary versions being effectively published, and to make clear the date of publication. Also approved was a series of recommendations on best practice, particularly with regard to long-term archiving.

In order to ensure that the user community is fully aware of these important changes, particularly as they will take effect prior to the publication of the *Melbourne Code*, a paper detailing them is being published almost simultaneously in 16 journals that publish, at least in part, electronically, with translations currently being prepared in Chinese, Portuguese, Russian, and Spanish. This paper is included in this issue of *Taxon* (Knapp & al., 2011).

## ■ LATIN—AND ENGLISH!

It is currently necessary to provide a description and/or a diagnosis in Latin, in order to validly publish the name of a new taxon, e.g., a species, except for names of fossils. The Nomenclature Section modified this so that, for names published on or after 1 January 2012, the description and/or diagnosis must be in either English or Latin. This will apply to names of new taxa in all groups covered by the *Code*. It is already the requirement for names of new fossil-taxa published on or after 1 January 1996.

The circumstances under which the Section made this decision and the details of its effect are provided in a separate paper in this issue (Smith & al., 2011).

## ■ ONE FUNGUS, ONE NAME

For over 100 years, the *Code* has permitted separate names for asexual and sexual phases of those fungi whose life history

involves morphological expressions so different that, until recently, it was commonly impossible to link one to the other. Molecular studies have changed this situation very substantially, and more and more connections are being made, so that the asexual phase (the anamorph) and the sexual phase (the teleomorph) of the one fungal species are increasingly being identified.

As this was an exception to one of the basic principles of the Code, that a taxon circumscribed in a particular way can have only one correct name, it has become increasingly anomalous to have separate names for the anamorph and the teleomorph phases of the one fungal species, and the concept of one name for one fungus has become increasingly supported by mycologists.

The Nomenclature Section agreed to delete this anomalous provision (contained in Art. 59), so that different names applying to asexual and sexual morphs of the same fungus compete for priority in the same manner as other names (i.e., based on date of publication). Because, currently, the name applied to the whole fungus (the holomorph) has to be one that is based on a teleomorphic element, an additional new set of rules was accepted that will allow lists of widely used names to be protected *en masse*, or lists of names of uncertain application to be rejected *en masse*, so as to minimize the nomenclatural disruption that would otherwise be caused by applying the rule of priority strictly.

### ■ ONE FOSSIL, ONE NAME

Although the details have changed over time, the Code has also for many years had special rules for names of fossils, reflecting their frequent fragmentary occurrence. Most recently, separate names could be applied to “morphotaxa”, each of which represented a particular part, life-history stage, or preservational state. This has meant that even if organic connections could be demonstrated between different fossils, there was no clear provision for naming the more complete organism.

The Nomenclature Section adopted a set of proposals (Cleal & Thomas 2010a, b) by which the whole concept of morphotaxa is abandoned, so that when two or more morphotaxa can be shown to belong to the same organism, their names compete for priority in the usual way.

### ■ REGISTRATION OF FUNGAL NAMES

Since 2004, the online database MycoBank ([www.mycobank.org](http://www.mycobank.org)) has become increasingly used by mycologists to register new fungal names and associated data, such as descriptions and illustrations. Upon registration, MycoBank issues a unique number which can be cited in the publication where the name appears. This number is also used by the nomenclatural database *Index Fungorum* and serves as a Life Science Identifier (LSID).

The Nomenclature Section in Melbourne approved a new rule in the Code whereby, on or after 1 January 2013, the publication of a new fungal name (names of new taxa, new

combinations, replacement names, and names at new rank) must include a citation of “an identifier issued by a recognized repository” in order to be validly published (i.e., to have any status under the Code). The mechanism for implementation of the new rule is for the Nomenclature Committee for Fungi to appoint “one or more localized or decentralized open and accessible electronic repositories to perform this function”. That Committee also has the power to remove such repositories at its discretion; and even to set aside the requirement should the repository mechanism cease to function.

### ■ ACACIA

In 2005 the Vienna Congress approved conservation of the name *Acacia* with *A. penninervis* as the type, a name applicable to an Australian species. This meant that the name *Acacia* could be used for the more than 1000 Australasian species when the various clades traditionally treated within a broadly defined *Acacia* were recognized as separate genera. Previously, the type of *Acacia* had been *A. scorpioides*, applicable to an African species belonging to a genus of fewer than 100 species, meaning that the Australasian genus had to be called *Racosperma*.

The validity of the procedure used in Vienna to effect this conservation was questioned by some, so that a resolution of this issue was anticipated in Melbourne. All the procedures and decisions of the Vienna Congress were endorsed when the Melbourne Nomenclature Section voted by a clear majority (68%) in favour of accepting the *Vienna Code* as a basis for its discussions.

Because of the widespread debate on the typification of *Acacia*, a number of attempts at compromise had been published. Two of these were also discussed in Melbourne but neither was successful. Therefore, the type of *Acacia* is correct as printed in the *Vienna Code*, i.e., *A. penninervis*; for those, the majority, that subdivide *Acacia* s.l., the correct name for the genus into which the former type, *A. scorpioides* (= *A. nilotica*), falls is currently considered to be *Vachellia*. A fuller account of the discussions on *Acacia* in Melbourne is provided by Smith & Figueiredo (2011) in this issue.

### ■ APPENDICES OF THE CODE

As more and more conserved or rejected names have been added to the Appendices of the Code, each successive printed edition has become bulkier. A set of proposals (Redhead, 2010) sought to limit publication of the Appendices to electronic format in online databases, with hard-copy updates published in *Taxon*, and the option of periodic publication of the full Appendices. These proposals were accepted by the Nomenclature Section, but amended to become a more general mandate: “The Editorial Committee has the option to produce the Appendices to the Code in electronic form only.” Of course, the Code and its Appendices will anyway be published electronically, as was done for the Tokyo, St. Louis, and Vienna editions, when the online version is released, probably in 2013.

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