Proposal to change General Consideration 5 and Principle 2 of the International Code of Nomenclature of Prokaryotes

Aharon Oren\(^1\) and George M. Garrity\(^2\)

\(^1\)Department of Plant and Environmental Sciences, Institute of Life Sciences, The Hebrew University of Jerusalem, Jerusalem 91904, Israel

\(^2\)Department of Microbiology & Molecular Genetics, Biomedical Physical Sciences, Michigan State University, East Lansing, MI 48824-4320, USA

A proposal is submitted to the ICSP to change the wording of General Consideration 5 of the International Code of Nomenclature of Prokaryotes (ICNP), deleting the words Schizophycetes, Cyanophyceae and Cyanobacteria from the groups of organisms whose nomenclature is covered by the Code. It is further proposed to change the terms Zoological Code and International Code of Botanical Nomenclature in General Consideration 5 and in Principle 2 to International Code of Zoological Nomenclature and International Code of Nomenclature for algae, fungi and plants, respectively.

In 1978 Stanier and coworkers proposed that the nomenclature of the Cyanobacteria, historically governed by the International Code of Botanical Nomenclature (ICBN), should be governed by the provisions of the International Code of Nomenclature of Bacteria (ICNB) (Stanier et al., 1978). Much can be said in favour of their proposal as the scientific evidence indicates that cyanobacteria are members of the Bacteria. As a result of this proposal and subsequent discussions in the International Committee on Systematic Bacteriology (ICSB)/International Committee on Systematics of Prokaryotes (ICSP), a nomenclatural system has emerged in which Cyanophyta/Cyanobacteria have been named according to the provisions of either Code. However, there are significant differences in the two Codes, the most relevant being the nature of the type material, the central registration and indexing of names, and the mutual recognition of names validly published under the provisions of either Code (Oren, 2004; Oren & Tindall, 2005).

Prior to 1999 there was no explicit statement in the ICNB to show that the nomenclature of the Cyanobacteria was also covered by the rules of this Code. However, at the meetings of the ICSB in Sydney in 1999, they were included in a *Note* to General Consideration 5. The earlier wording of this General Consideration (Lapage et al., 1992) was: ‘This Code of Nomenclature of Bacteria applies to all bacteria. The nomenclature of certain other microbial groups is provided for by other Codes: fungi and algae by the Botanical Code, protozoa by the Zoological Code, and viruses by the Virological Code when it is approved ...’. The new wording adopted (De Vos & Trüper, 2000; Labeda, 2000) was as follows: ‘This Code of Nomenclature of Prokaryotes applies to all Prokaryotes. The nomenclature of eukaryotic microbial groups is provided for by other codes: fungi and algae by the International Code of Botanical Nomenclature, protozoa by the Zoological Code. The nomenclature of viruses is provided for by the Virological Code when it is approved ... *Note*. ‘Prokaryotes’ covers those organisms that are variously recognized as e.g. Schizomycetes, Bacteria, Eubacteria, Archaeabacteria, Archaeaebacteria, Archaea, Schizophycetes, Cyanophyceae and Cyanobacteria’. The following comment was added in the minutes of the meetings of the Judicial Commission in Sydney where the change was discussed: ‘Due consideration has been given to including cyanobacteria which are traditionally covered by the International Code of Botanical Nomenclature; this question has been elaborately discussed elsewhere’ (De Vos & Trüper, 2000). It is interesting to note that the words Schizophycetes, Cyanophyceae and Cyanobacteria were not included in the original proposal to the ICSB to change General Consideration 5 (Tindall, 1999).

After the Cyanobacteria were thus formally added to the groups of prokaryotes covered by the ICNB/ International Code of Nomenclature of Prokaryotes (ICNP), discussions toward the harmonization of the nomenclature of the Cyanobacterial/Cyanophyta under the ICBN/ICNP and the ICBN were resumed (Hoffmann, 2005; Oren & Tindall, 2005; Oren et al., 2009). To further advance the
discussions, a Special Committee on Harmonization of Nomenclature of Cyanophyta/Cyanobacteria (established in association with relevant appointees from the ICSP) was established in Melbourne in 2012 under the provisions of the International Code of Nomenclature for algae, fungi and plants (ICN), consisting of representatives from the botanical and the bacteriological authorities, to report to the General Committee for Botanical Nomenclature at the XIX International Botanical Congress to be held in Shenzhen, China in 2017 (Wilson, 2012). Thus far this Special Committee has not been active and no progress is to be expected in the near future. The main stumbling block is the compilation of lists of names and also the selection of names at the species level that an Approved Lists document would seek to protect.

We therefore propose changing the Note to General Consideration 5 as follows:

Note. ‘Prokaryotes’ covers those organisms that are variously recognized as e.g. Schizomycetes, Bacteria, Eubacteria, Archaea, Archaeobacteria, and Archaea. This Code does not cover the nomenclature of the Cyanobacteria/Cyanophyceae/ Cyanophyta, which traditionally is covered by the International Code of Botanical Nomenclature/International Code of Nomenclature for algae, fungi, and plants. However, names of cyanobacterial genera and species validly published in the past under the provisions of the ICNP will retain standing in the nomenclature.

The few names of new cyanobacterial genera and species published under the provisions of the ICNP before the proposed change in General Consideration 5 will go into effect should thus remain validly published under the ICNP. Those names are also considered as validly published under the ICBN/ICN based on Article 45.1 of the ICN (Article 45.4 in previous editions of the ICBN): ‘If a taxon originally assigned to a group not covered by this Code is treated as belonging to the algae or fungi, any of its names need satisfy only the requirements of the relevant other Code that the author was using for status equivalent to valid publication under this Code ...’ The case of Prochlorothrix hollandica is cited as an example in the ICN (McNeill et al., 2012).

In addition it is proposed to change International Code of Botanical Nomenclature and Zoological Code in General Consideration 5 and in Principle 2 to International Code of Zoological Nomenclature and International Code of Nomenclature for algae, fungi and plants, respectively, in accordance with the recent renaming of the Botanical Code (McNeill et al., 2012) and the full title of the Zoological Code (International Commission on Zoological Nomenclature, 1999).

References


