



BioCode: Third time lucky?

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Fifteen year ago a draft BioCode was presented to the taxonomic community (Greuter *et al.* 1996). There is now a new version, published in *Taxon* (Greuter *et al.* 2011) and available online on the International Committee on Biological Nomenclature website as well as that of the International Commission for Zoological Nomenclature. Has the BioCode matured since it was last put forward? Was it ahead of its time in the 1990s, particularly in relation to the possibilities of electronic registration? Is it the future yet? As a taxonomist with an active interest in (botanical) nomenclature, I was still a student when this arose the last time and have referred to the literature to see what happened then. Interestingly it turns out that it wasn't the first time a biocode equivalent was suggested. Minelli (2008) discusses the suggestions drafted by a commission appointed on request of the zoologist Carlo Luciano Bonaparte in regard to the so-called Strickland Code (Strickland *et al.* 1842), these ideas, like the 1996 BioCode, were not accepted by the taxonomic community. Perhaps third time lucky?

The main reasons for the need for a code of bionomenclature across all organisms relate to issues of homonymy between kingdoms and continuing disruption and confusion caused by 'legacy' names, combined with the complicated nature of the current codes that have evolved over time. As noted in the introduction to the 1996 BioCode "The desirability of seeking some harmonization of all biological codes has been appreciated for some time" (McNeill 1996). It is impossible to argue with the statement in the Preamble of the 2011 Draft BioCode that "biology requires a precise, coherent and simple system for the naming of organisms used internationally" (Greuter *et al.* 2011).

This sort of undertaking has wide reaching effects and needs to be treated as an exercise in international taxonomic diplomacy. Proffering something that involves change to groups who are historically fairly conservative is politically difficult territory. If it is provided as a *fait accompli* there are those who could feel that it is being foisted upon them by a self-chosen group 'on high'. However, if no detailed enough plan for implementation exists then others will level a criticism of 'all talk, no substance' and it can be difficult to assess the virtues. This is not the place to review in detail the entire previous process, as Alessandro Minelli put it in 2001 "The project was eventually abandoned, mainly owing to manifest difficulties in satisfactorily dealing with already existing names and to unwillingness of many botanists and zoologists alike to part with their traditional rules and to accept registration of new names". These issues will still need to be overcome if the BioCode is to become a reality.

It is worth examining what has changed in the approach to proposing a BioCode. There is a sense of evolution that can be seen in titles of discussions regarding the BioCode. The session in Budapest at the 1996 International Congress of Systematic and Evolutionary Biology (ICSEB) was "The New Nomenclature", in 2009 at the Natural History Museum in London a workshop was held on "Tailoring Biological Nomenclature to User Needs" and at the 2011 ICSEB in Berlin the symposium was entitled "Modernizing the Nomenclatural Codes to meet Future Needs of Scientific Communities". The new BioCode "is most appropriately viewed as a framework over-arching the practices of the current series of codes" (Hawksworth 2011). There appears now to be a more mature, patient approach with staged implementation of the BioCode envisioned, a process where the users of the codes will decide how to implement the new rules alongside the existing ones. "Future date to be determined" (Greuter *et al.* 2011) is a much more amenable tone than "2000n...the urgency of having a *BioCode*... is recognized by indicating a date within the first decade of the millennium." (MacNeill 1997). The recent meeting in Berlin resulted in a very well balanced, positive, non threatening resolution accepted with no opposition by the International Congress of Systematic and Evolutionary Biology (IOSEB 2011).

Reading the BioCode itself is tough going and, like all similar legalistic documents, it is very hard to grasp exactly what the consequences are without actually applying it. It is, thankfully, much shorter and less complicated than the International Code for Botanical Nomenclature (ICBN, MacNeill *et al.* 2006) or the International Code of Zoological Nomenclature (ICZN 1999), one of its advantages. Without real examples it is hard to fully appreciate the implications of the nuts and bolts, but in general it seems to be basically a good idea and there is nothing blatantly unreasonable in it.