

We need at least two baskets for our eggs: PDF alone is not enough for e-publication

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The *Melbourne Code* (McNeill & al., 2012; see also Knapp & al., 2011) states (Art. 29.1) that publication can be “effected by distribution . . . of electronic material in Portable Document Format . . .” Thus, only PDF, and not other formats, is acceptable for effective electronic publication. I do not think that this is appropriate.

PDF has become exceptionally popular (I would say, overpopular) not only because it presents an easy way of retaining the original layout of a document produced by many kinds of software, but also because it is the product of a large multinational company, Adobe Systems, which has extensively marketed it. With the rise of PDF, the use of other formats has declined considerably, even though they may have had certain advantages to the user like DjVu or Envoy (Kientzle, 1995). As a successor of PostScript language, PDF has extensive internal complexity resulting in some PDF files that can only be read with specific software and on specific platforms. To edit some PDFs, one may need to use complicated, expensive software. PDF/A, an international standard recommended by the *Code* (Rec. 29A.1), is exceptionally complex, the PDF 1.4 specification (Adobe Systems Inc., 2001) having almost 1000 pages! The size of specification significantly increases the possibility that should we enter a “digital dark age”, specialists may not be able to decipher old PDF documents.

What if Linnaeus had been a Mayan scientist? One of the main problems of deciphering Mayan scripts was the absence of a Rosetta Stone, in other words, any parallel script of the same meaning (Knorozov, 1963). If the botanical community had an alternative format for effective electronic publication, the above-mentioned problems would not be as significant.

In essence, for effective electronic publication all we need is a format that supports text formatting and inclusion of images. To date, plenty of such formats exist, such as EPUB (Conboy & al., 2011), an open format which is becoming increasingly popular due to the rising use of e-book readers. Another alternative is the set of simple raster images, for example Portable Pixel Map (PPM). Since raster images are combinations of pixels, they will handle documents of any complexity and even retain the original formatting and layout. Specifications for PPM (part of Netpbm project), is just a few pages (PPM, 2013). Both EPUB and PPM would meet the requirements for electronic publications outlined in Chapman & al. (2010).

I would therefore suggest that consideration be given to amending Art. 29.1 so that it would require electronic publication to be done in two formats (for example, PDF and something else). Another possible solution can be found in the recently amended (see International Commission on Zoological Nomenclature, 2012; Zhang, 2012) *International Code of Zoological Nomenclature* (International Commission of Zoological Nomenclature, 1999) where a given format is not required. Instead, requirements (“widely accessible electronic copies with fixed content and layout”) are provided for acceptable effective electronic publication, with PDF/A being given as a format that meets these requirements. Therefore, other formats are permitted, so long as they can provide “widely accessible electronic copies with fixed content and layout” (Art. 8.1.3.2 of amended *ICZN*). Nevertheless, even in this case, keeping two formats will significantly increase chances of deciphering texts in the future.

We need a botanical Rosetta Stone.

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