

## A Neolithic Counter-revolution?\*

A comment about proposed amendment of the International Code of  
Zoological Nomenclature

by

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‘The attempt to compress the content of a modern digital medium, for example an interactive CD or DVD of the present day, into a book would be comparable to the attempt of a Stone Age person to record the content of Linnaeus' *Systema Naturae* on stone slabs.’

‘After 2009, the only acceptable means of producing physical copies is by printing on paper using ink or toner’, so the International Commission on Zoological Nomenclature according to the ‘proposed amendment’ of their ‘rules’ from October 17th, 2008 [ICZN 2008].

We – the board of the CURCULIO Institute - immediately announced our protest (Board of CURCULIO-Institute 2008) and, at the same time, we offered many suggestions to the members of the Commission (Stüben & Curculio-Institute 2009) for improvements to the amendment. But whether or not we will succeed is another story. It is a fact that we can look back on a rich and positive experience with interactive electronic publications (e.g. CD/DVD) for more than 10 years; and this impressive success story confirms our belief that this is the positive way forward!

Our most important arguments are summarized here briefly:

- The crucial guideline is to guarantee the quality of scientific work. There has been rapid scientific advancement in taxonomically relevant publications during the last 10 years by digital, interactive presentations (e.g. scroll pictures, overlays, microphotography, and computer tomography). These innovations, which allow the extensive documentation of empirically

established hypotheses, cannot be realised on paper (including digital paper, PDF), not even approximately, in quality and extent.

- Since 2000, ICZN (rule: 8.6) has enabled the presentation of taxonomic and scientific works to be published on other media than printed paper (e.g. CD/DVD). By this, ICZN initiated many innovations that rank among the standards of scientific research and publishing today.

- Comprehensive contributions - such as those of SNUDEBILLER - cannot be documented on paper without a large loss of data and information. For this reason limiting documentation of taxonomic-scientific works only to printed paper (ICZN: ‘by printing on paper using ink or toner’) is no longer an option!

- Against the background of this fundamental paradigmatic change concerning content and mode of taxonomic-scientific works, the core task of the ICZN and the rules is to make sure that taxonomic-scientific results remain available in their original form, without loss or change of information, independent of the storage medium. Neither the ‘acid content’ of paper nor the ‘half-life’ of a CD ROM are at the top of the agenda, but the question is: How can we ensure that taxonomic information is most efficiently made available to the scientific community whilst maintaining those standards on which the foundation of nomenclature is based. Biologists know well that: ‘To preserve life means to copy life successfully’!

Of course, we would have presented our interactive publications to a censorious public in the World Wide Web 10 years ago, if ICZN had cleared the way for this. This anachronism met with incomprehension at that time. For many scientists in the Third World neither acquiring nor maintaining expensive scientific journals is a realistic option.

The crucial reason for selecting an electronic medium (now CD/DVD) was the potential for enhancing scientific quality in taxonomic works by expanding on the written word with innumerable detailed images. This is an effort to expand upon the array of methods using all available technologies of presentation (as provided by the digital revolution). With this it is possible to provide and to document what previously could only be described circumstantially. Language is only one - and not the most reliable or trustworthy - mode of communication among taxonomists. In species identification today, images (and also genetic barcodes) play a role that should not be underestimated in improving communication.

It has to be ensured that authenticity - form and content - of publications are not subjected to regulations with reducing effects. A loss of information has to be avoided (even if 'ink and toner' are responsible for a certain bibliophilic appeal). To constrain our large-scale and very detailed 'maps of an insect' or our scroll pictures developed for several years (and these are only two examples of our comprehensive digital repertoire of scientific illustrations) in the 'bed of Procrustes' of the layout of a paper journal or of a digital PDF surely does not answer the intended purpose of avoiding data losses. By the way, the intended aim - equivalence of information and dependability of citations - also fails if coloured multi-scalable PDF publications on the internet are equated with coincidentally published black-and-white illustrations on paper. 'What is true?' asks the student who discovers 'new characters' for the first time on the illustrations on the Internet that are accurate down to the last detail.

In other words: when work is archived on different media a 1:1 reproduction (this means the format remains the same) has to be guaranteed. This we owe to those who read and quote our works advertently. Taking into account the aforementioned constraints, this means that black and white paper publications should be archived as black and white pdf files and interactive publications must be stored in interactive formats on CD or DVD. Moreover, deposition in public libraries, in GenBank or ZooBank, should be a further condition to ensure that transfer data is securely stored and freely available (open access) to subsequent generations. It could be so simple!

But outright bans on technological innovation in publishing cannot help. Or does even a nomenclaturist believe that authors of internet publications will renounce the capability of using interactive linking and networking in the World Wide Web just because another 'rule' forbids accessing current satellite images from Google Earth, for example? Scientific progress cannot be stopped in this way. Those who are not ready to anticipate the future to a distinct degree, who only make a defiant stand against scientific progress, because 'paper doesn't blush', those who come late are punished by history (or should I say: ... by-passed by Internet as the clearance of nomenclaturally relevant articles by ICZN attests – ten years too late!).

Is there any reason to be resigned to this pessimistic view of the future? Certainly not. At the last annual meeting of the CURCULIO Institute in February 2009 it was agreed that our interactive SNUDEBILLERonline publications will be presented on the Internet from January 1<sup>st</sup>, 2010 onwards and it will be possible to download them with the interactive BOOKREADER programme. We owe this not only to our readers, the numerous subscribers and members of the CURCULIO Institute, but also to ourselves, as we have

spent a lot of development time and costs on this project that is unique around the world. Four years after their first appearance, the contributions will be released for all as open access publications. Moreover, the SNUDEBILLER CD/DVD will also be published every year and sent to all members, libraries and archives - independent of the final decision of ICZN. Data protection is at the top of our agenda! From January 1st, 2010, nomenclaturally relevant works can be read in our online journal WEEVIL NEWS as PDF ('digital paper'/ ISO Standard 19005-1:2005). In this way they will have a worldwide distribution in an acceptable 'ICZN version'.

... until we can renounce this decision, when after 10 years our interactive publications will find the 'sympathy and accordance' of the Commission members, it is our task to promote this!

### References

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- ICZN (2008): Proposed amendment of the International Code of Zoological Nomenclature to expand and refine methods of publication. - Zootaxa 1908: 57-67, October 17, 2008)
- Stüben P.E. & Curculio-Institute (2009): Contribution to the discussion on electronic publication: Existing media – CD & DVD. – Bulletin of Zoological Nomenclature 66, part 1: 8-9.
- \* Adrian Folwes (Countryside Council for Wales, Plas Penrhos, Bangor, CURCI member) kindly revised the English text.

# ZOBODAT - [www.zobodat.at](http://www.zobodat.at)

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Coleo - Arbeiten und Berichte aus der Coleopterologie](#)

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