

First International Phylogenetic Nomenclature Meeting

Paris, June 28 to July 1, 2004

First circular

Dear colleagues,

The Organizing Committee announces that the *First International Phylogenetic Nomenclature Meeting* will be held in Paris, at the *Muséum National d'Histoire Naturelle* and at the *Collège de France*, from June 28 to July 1st, 2004. This meeting should be of general interest for biologists because it will constitute an important event in the development of new code of biological nomenclature. Papers presented at the meeting will be assembled into a symposium volume whose publication will coincide with the implementation of the PhyloCode. This volume will represent the official starting point of phylogenetic nomenclature as implemented in the PhyloCode, and the names defined within it will be the first ones established under the new code. We hope that specialists on a wide range of organisms will participate in the meeting and contribute to the symposium volume. The process of submitting abstracts will be detailed in the second circular. We ask that systematists who work on the same group collaborate to produce a single set of phylogenetic definitions for clade names in that group.

Many systematists consider that the current rank-based codes of biological nomenclature, which have pre-Darwinian roots, are poorly suited to modern systematics, which is intrinsically evolutionary. As a result, an increasing number of systematists have sought an alternative to the rank-based codes, and these investigations have resulted in the development of principles of **Phylogenetic Nomenclature**, and later, to a draft **PhyloCode** (accessible on the internet at <http://www.ohiou.edu/phylocode/>). The PhyloCode differs from the current codes in numerous ways. Most importantly, in the PhyloCode, the names of taxa are defined by the phylogenetic relationships of species (or specimens), and rules of synonymy, homonymy and priority apply to taxon names without regard to rank. By contrast, in the rank-based codes, priority applies within a rank (botanical code) or within sets of coordinate ranks (zoological code), with the result that the correct name of a clade depends on the rank to which it is assigned. Furthermore, the rules of priority do not apply above a certain level in the rank-based codes (e.g., above the supra-familial level in the zoological code).

It is not possible to explain in full the working of the PhyloCode in this circular, but a few basic principles can be summarized. Three main categories of definitions have been proposed (Fig. 1):

- 1) Node-based definitions. A node-based definition may take the form "the clade stemming from the most recent common ancestor of A and B" (and C, D, etc., as needed) or "the least inclusive clade containing A and B" (and C, D, etc.), where A-D (and other letters used in the two other categories of definitions) are specifiers (specifiers are species, specimens, or apomorphies).
- 2) Stem-based definitions. A stem-based definition may take the form "the clade consisting of A and all organisms or species that share a more recent common ancestor with A than with Z" (and Y and X, etc., as needed) or "the most inclusive clade containing A but not Z" (and Y and X, etc.).
- 3) Apomorphy-based definitions. An apomorphy-based definition may take the form "the clade stemming from the first organism or species to possess apomorphy M as inherited by A" or "the most inclusive clade marked by apomorphy M as manifested in A."

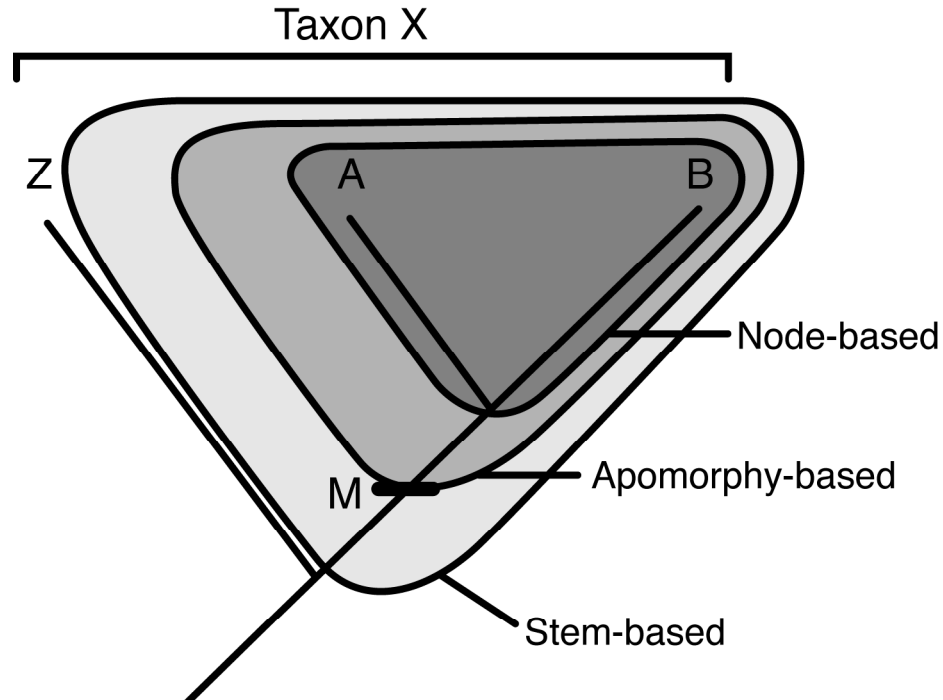


Figure 1. Categories of phylogenetic definitions.

According to the PhyloCode, later homonyms and synonyms are not accepted unless conserved. Precedence is based on the date of establishment, with earlier-established names having precedence over later ones, except that

later-established names may be conserved over earlier ones under certain conditions specified by the PhyloCode. To facilitate the work of systematists, a freely accessible on-line database will include the exhaustive list of taxon names and definitions that have been published under the PhyloCode.

The PhyloCode will greatly clarify the application of names because in traditional nomenclature, many names are applied to groups that vary greatly in their inclusiveness even when there is no disagreement about the phylogeny. For example, the name Mammalia has been applied to clades as large as Synapsida (the total group that has existed since the Upper Carboniferous) or as small as Theria (which arose in the Cretaceous).

The PhyloCode Advisory Committee last met at Yale (New Haven, USA) in July 2002 and decided that the International Society for Phylogenetic Nomenclature would be inaugurated at an international meeting. A council and officers of the ISPN will be elected and committees established. These committees will be responsible for amending the PhyloCode, managing the registration database, and considering applications for suppression or conservation of names, among other tasks.

We hope that this meeting and the publication of the symposium volume will be key events in the history of systematics. Indeed, they will mark the introduction of a new international code of biological nomenclature that incorporates the most fundamental changes in the way taxon names are defined since Linnaeus. All interested systematists are cordially invited to participate in this historic meeting. To receive the second circular (that includes registration information), please contact M. Laurin by e-mail (laurin@ccr.jussieu.fr) and write in the "subject" field of the message "PhyloCode 2004 meeting".

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