



## A Proposal to Uniquely Distinguish Established Clade Names under the *PhyloCode*

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### Abstract

The first edition of the *PhyloCode* recommends that established clade names should be italicized to distinguish them from vernacular names. To distinguish names established under the *PhyloCode* from names governed by the rank-based codes, the recommendations provide two examples, one involving the use of bracketed letters, the other involving the designation “clade” or the name of a rank. Italicization of all scientific names creates a conflict with the Zoological Code, while the use of bracketed letters or designations adds unnecessary complexity in print. To distinguish established clade names simultaneously from both vernacular names and scientific names governed by rank-based codes, I propose that established clade names be underlined. This is a simple solution that can be applied easily, it would make established clade names immediately recognizable, and it has some continuity with past and modern practices.

**Key words:** italics, rank-based codes, scientific names, underlining, vernacular names

The two recommendations following Article 6.1 of the *PhyloCode* (Cantino and de Queiroz 2020) try to achieve two results: to distinguish scientific names from vernacular names and to indicate which scientific names have been established as clade names, thereby distinguishing them from names governed by the rank-based codes. First, Recommendation 6.1A of the *PhyloCode* tries to unify the typestyle of all names by recommending that “[i]n order to distinguish scientific names from other (e.g., vernacular) names, all scientific names should be italicized when they appear in print”, clarifying however that “[i]talicizing all scientific names is consistent with the 2018 edition of the ICNAFP but not with the 1999 edition of the ICZN” (Note 6.1.A.1). Second, Recommendation 6.1B suggests that it may be desirable to distinguish established clade names “from supraspecific names governed by the rank-based codes, particularly when both are used in the same publication.” The first example (Example 1 of Rec. 6.1B) involves adding a bracketed or superscript letter to designate whether a name is governed by the *PhyloCode*, [P], or a rank-based code, [R]. The second example (Example 2 of Rec. 6.1B) involves using the words “clade” or the name of the rank (e.g., “subfamily”) before the name.

The combined result of following these two proposed recommendations is, in my opinion, far from ideal. As italicizing has varying traditional uses across codes of nomenclature with points of agreement (i.e., species binomina are italicized under all codes) and disagreement (i.e., names of higher taxa are italicized under some but not all codes), unifying all names with italics might cause confusion for modern readers, especially in zoology. Also, distinguishing names that have been established under the *PhyloCode* with a bracketed letter such as [P] creates a result that might cause confusion with other practices (e.g., the citation of names of definitional authors, which are also cited between brackets). For these reasons, I here propose an alternative solution.

The purpose of this short proposal is to provide a solution that will combine several desirable features. The way that established clade names are written should, ideally, satisfy the following conditions:

1. Established names under the *PhyloCode* should be written in a unique way to allow their immediate recognition, distinguishing them both from vernacular names and from names governed by the rank-based codes.
2. This style should be usable in conjunction with all other nomenclatural codes, without causing any continuity issues or conflicts.

3. This style should be independent of the orthography and spelling of the name.
4. This style should be easy to apply in standard text editors, databases, computing scripts, text, html, and pdf formats.
5. This style should not require major changes to current practices so that it can be easily adopted by all types of publishers.

My proposal is that all established clade names under the *PhyloCode* should be underlined. The use of italics should remain as specified in the traditional codes. Underlining is a typestyle like boldface and italics; thus, it can be added to any preexisting name under other codes without any issues. In fact, underlining was traditionally used in manuscript preparation and/or publishing to indicate emphasis and often to denote that a word should be printed in italics. In taxonomy, especially in older texts written on typewriters, such as PhD dissertations or manuscripts, genus and species names were underlined to show that they should appear italicized in print. Note that most modern publishers do not allow underlining for stylistic reasons, so underlining mainly appears (in combination with a different text color) in electronic publications to indicate the presence of a hyperlink. It is, therefore, a style that can, in modern publishing, be uniquely applied to clade names.

Scientific names that are underlined would be immediately distinguishable from other scientific names and would permit the distinction between preexisting uninomina governed by the Zoological and the Botanical or the Prokaryote Codes (the last two recommend italicizing names at higher ranks as well), especially those that might have similarly spelled suffixes. For example, *Nominidae* (both in italics and underlined) would indicate both an established clade name and a plant subclass name, whereas Onymidae (underlined, not in italics) would indicate both an established clade name and an animal family name. If *Nominidae* and *Onymidae* are not underlined, that means that these names are not established as clade names (i.e., under the *PhyloCode*). If underlining is accepted as the recommended method to indicate established clade names, it would make the examples of other methods under Recommendation 6.1B unnecessary.

Underlining would be a simple way to denote the establishment of a clade name under the *PhyloCode*, whether preexisting or new, respecting all previous orthography and styles under traditional codes. It could be easily adopted and applied in both online and printed papers, and it could be easily applied to subsequent editions of previously published documents without constituting a significant change in content or significantly disrupting the continuity of published literature. This is not a formal proposal to the Commission of Phylogenetic Nomenclature (CPN) but rather a general proposal to the community that uses phylogenetic nomenclature. If this proposal becomes widely adopted, a formal proposal to the CPN could then be made to modify Article 6.1. of the *PhyloCode*.

[Editor's Note: Publication of this article does not imply endorsement of the proposal by the *Bulletin of Phylogenetic Nomenclature* or the *International Society for Phylogenetic Nomenclature*.]

## Acknowledgments

I deeply thank the Editor K. de Queiroz and two anonymous reviewers for editorial work and several comments that helped to improve this manuscript.

## Literature Cited

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