

# Naming classes of prokaryotes based on the rules of Latin grammar

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## Abstract

Recently a proposal was published to unify Rules 7, 8 and 9 of the International Code of Nomenclature of Prokaryotes. Based on this proposal, all names of taxa above the rank of genus must be in the feminine gender, the plural number. For the rank of class, this proposal contravenes Principle 3 of the Code, which states that the scientific names of all taxa are treated as Latin. The *-ia* ending of most names of classes belongs to nominative plural nouns of the neuter gender.

In a recent paper published in this journal [1], Tindall proposed changes in the way prokaryotic taxa above the rank of genus are named. This proposal included the unification of Rules 7, 8 and 9 of the International Code of Nomenclature of Prokaryotes [2] to state:

‘The name of a taxon covered by this Code (Rule 5b) above the rank of genus is a substantive or an adjective used as a substantive of Latin or Greek origin, or a latinized word. It is in the feminine gender, the plural number, and written with an initial capital letter.’

This includes the rank of class. Based on Rule 8 of the current version of the Code, newly proposed names of classes are in the neuter gender, the plural number, and are formed by the addition of the suffix *-ia* to the stem of the name of the type genus of the type order of the class. This version of Rule 8 was approved at the meetings of the ICSP in Istanbul in 2008 and took effect with the publication of the minutes of those meetings [3]. Many of the older names of classes also end in *-ia*, but other endings exist, so that not all names of classes are in the neuter gender.

The proposal by Tindall according to which all names of the higher taxa are in the feminine gender, the plural number, contravenes Principle 3 of the Code, which states that the scientific names of all taxa are treated as Latin. The *-ia* ending is formed as the plural of *-ium* (neuter, second declension), and can never belong to a Latin feminine plural substantive in the nominative case. Such words typically end in *-ae* (first declension), *-es* (third and fifth declension) or *-us* (fourth declension) [4]. To comply with

the rules of Latin grammar and the provisions of Principle 3, Tindall’s proposal must be emended as follows:

‘The name of a taxon covered by this Code (Rule 5b) above the rank of genus is a substantive or an adjective used as a substantive of Latin or Greek origin, or a latinized word. It is generally in the feminine gender, the plural number, the nominative case, and written with an initial capital letter. Names of classes that end in *-ia* are in the neuter gender, the plural number, in the nominative case, and written with an initial capital letter.’

If all names of classes validly published in the past will be retained in the future and not corrected to names ending in *-ia* [5], some names of classes must keep the masculine gender (e.g. *Bacilli*).

To remove all possible doubt, we added ‘in the nominative case’, as was also proposed for generic names in an emendation of Rule 10a [6].

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## Conflicts of interest

The authors declare that there are no conflicts of interest.

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