The relationship of validly published names to legitimate and illegitimate names in the International Code of Nomenclature of Prokaryotes

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The International Code of Nomenclature of Prokaryotes defines validly published names, legitimate names and illegitimate names, but does not clearly define the inter-relationship between them. Clarification is required.

The 1975, 1990 and 2008 revisions of the International Code of Nomenclature of Bacteria/Prokaryotes essentially define the terms validly published, legitimate name and illegitimate name using the same wording (Lapage et al., 1975, 1992; Parker et al., 2015).

Rule 23a Note 5 states:

‘validly published – effectively published and accompanied by a description of the taxon or a reference to a description and certain other requirements (see Rules 27–32);’

Rule 24a states:

‘Valid publication of names (or epithets) which are in accordance with the Rules of this Code dates from the date of publication of the Code.’

Rule 27 also lays down general criteria, starting with the wording:

‘A name of a new taxon, or a new combination for an existing taxon, is not validly published unless the following criteria are met.’

Legitimate and illegitimate names are defined under Rule 23a:

‘legitimate – in accordance with the Rules;’

‘illegitimate – contrary to the Rules;’

In addition, Rule 51a states:

‘A name contrary to a Rule is illegitimate and may not be used.’

Rules 51a, 51b, 52 and 53 also give further explanation of instances where names or epithets are illegitimate.

The wording of the 1975, 1990 and 2008 (Lapage et al., 1975, 1992; Parker et al., 2015) revisions of the Code do not specifically mention the inter-relationship between validly published names and illegitimate or legitimate names. The wording of Rule 24a appears to provide an indirect link between valid publication and ‘names which are in accordance with the Rules’. If this is taken to mean that only legitimate names may be validly published, the issue arises that a name must be first judged to be legitimate before it is validly published. Principle 7 states:

‘A name of a taxon has no status under the Rules and no claim to recognition unless it is validly published.’

Since legitimate and illegitimate are a status under the Code this wording would imply that a name must first be validly published.

Earlier revisions of the Code (Editorial Board, 1958, 1966) indicated that:

‘The word name unless otherwise indicated, means a name which has been validly published, whether legitimate or illegitimate.’

The equivalent section of the more recent revisions read (Lapage et al., 1975, 1992, Parker et al., 2015):

Principle 1:

‘Note. “Name” in this Code is used to refer to scientific names applied to bacteria/prokaryotes’

If, however, Principle 1 is re-worded as follows (changes highlighted in bold):

‘Note. “Name” in this Code, unless otherwise indicated, is used to refer to scientific names applied to prokaryotes which have been validly published whether legitimate or illegitimate.’

this now clarifies the fact that a name must first be validly published and that this is irrespective of whether they are then found to be legitimate or illegitimate.
Furthermore a change to Rule 23a as follows (changes highlighted in bold or as strikethrough):

‘Valid publication of names (or epithets) which are governed by in accordance with the Rules 27–32 of this Code dates from their date of valid publication under this Code.’

would also clarify the fact that valid publication specifically refers to a defined set of Rules rather than all of the Rules.

One consequence of these changes would be that one has to clearly distinguish between those requirements of Rules 27–32 that govern the valid publication of a name in order for a name to be validly published and those instances where a validly published name is then discovered to be illegitimate. It also solves a potential ambiguity whereby it may appear that a name that is contrary to the requirements of Rules 27–32 may at the same time be both not validly published and illegitimate. If the proposed wording is used, a name that does not meet the requirements of Rules 27–32 is not validly published. If it is not validly published it cannot be legitimate or illegitimate. Only once a name or epithet is validly published that does not meet the requirements of, for example, Rule 52 can it be judged to be illegitimate. The following two examples illustrate this point:

On the transfer of Ruegeria gelatinovorans (Rüger and Höfle 1992) Uchino et al. 1999 to the genus Thalassobius Arahal et al. 2005 as Thalassobius gelatinovorus (Rüger and Höfle 1992) Arahal et al. 2005, Arahal et al. (2005) only indicated the deposit of the nomenclatural type in one collection, not at least two collections as required by the Code (De Vos & Trüper, 2000; Parker et al., 2015). Consequently, based on the existing wording of the Code the name may be evaluated as being contrary to Rule 30 (i.e. illegitimate) and also not validly published. Based on the new wording the name would not be validly published and no further status is required. The name Thalassobius gelatinovorus (Rüger and Höfle 1992) Arahal et al. 2006 was included on Validation List 107 (Arahal et al., 2006) together with the citation of more than one culture collection number and reference to an effective publication where the description was to be found, in accordance with Rule 27.

Similarly, the genus name Rhizomonas van Bruggen et al. 1990 is a homonym of the protozoan genus Rhizomonas Kent 1880 and is illegitimate (Rule 51b) (Parker et al., 2015). If the current wording of the Code were to be interpreted as meaning that an illegitimate name cannot be validly published this would have consequences for the rejection of the name Rhizomonas van Bruggen et al. 1990. If, however, the wording of the Code is altered so that Rhizomonas van Bruggen et al. 1990 must first be validly published before it can be shown to be a homonym and treated accordingly, then this clarifies the sequence of events.

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References


