

'Localimania' revisited: guidelines for the formation of specific epithets for names of prokaryotes based on names of institutions or their acronyms. A proposal for emendation of Appendix 9 to the International Code of Nomenclature of Prokaryotes

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Abstract

We here present a survey of the increasing use of the *-ensis* (*-ense*) ending for the formation of specific epithets that do not refer to geographical locations but to names of research institutes or their acronyms. To our opinion the use of the *-ensis* (*-ense*) ending must be discouraged for such purposes, the formation of nouns in the genitive case being preferred for the formation of such arbitrary epithets. Emendation of *Appendix 9 – Orthography to the International Code of Nomenclature of Prokaryotes* is proposed with guidelines for the formation of such names.

In his Letter to the Editor entitled 'Is "localimania" becoming a fashion for prokaryote taxonomists?', the late Professor Hans Trüper warned against the excessive creation of specific epithets based on geographical locations, formed as adjectives ending on *-ensis* (masculine and feminine) or *-ense* (neuter) [1]. He noted a sharp increase in the number of proposals for such names: based on the Validation Lists and Notification Lists published in the *International Journal of Systematic and Evolutionary Microbiology (IJSEM)* in 1998, 2000, 2002 and 2004, 11, 13, 15 and 26 %, respectively, of all new specific epithets were formed by adding *-ensis* (*-ense*) to the name of a locality. Trüper called this trend 'localimania' or even 'ensitis'. He listed several possible reasons for the increasing popularity of such 'geographical' names, including (1) less work; (2) laboratory esteem; (3) local pride; (4) national pride, and (5) geopolitical aims. Hans Trüper expressed the hope that this 'localimania' could be cured, and the frequency of such names could drop back to below 10 %.

Since the 'localimania' letter was published, the relative number of 'geographical' names in original papers published in the *IJSEM* has indeed decreased: out of the nearly 200 new names of prokaryote species published in original papers in Vol. 66, issues 7–9 (2016) of the *IJSEM*, only 12.4 % had such epithets.

In our function as nomenclature reviewers for the *IJSEM*, we are increasingly witnessing a different form of 'localimania' or 'ensitis' in which specific epithets ending on *-ensis*/*-ense* are formed from names of scientific institutions or (in most cases) their acronyms. For example, *arilaitensis* (Arlait-Recherches), *asuensis* (Arizona State University), *cecembensis* (Centre for Cellular and Molecular Biology; CCMB), *chungangensis* (Chung-Ang University), *encimensis* (National Collection of Industrial Microorganisms, India; NCIM), *enclensis* (National Chemical Laboratory, India; NCL), *idriensis* (Infectious Disease Research Institute; IDRI), *ironensis* (Indian Space Research Organization; ISRO), *kribbensis* (Korea Research Institute of Bioscience and Biotechnology; KRIBB), *timonensis* (Hôpital de la Timone), and *yunweiensis* (Yunnan Institute of Microbiology).

In classical Latin, the ending *-ensis*/*-ense* is mainly used to form ethnic adjectives derived from geographical names (e.g. *atheniensis*, *carthaginiensis*), but, to a lesser extent, also adjectives derived from names which indicate a place (e.g. *circensis*, *forensis*). In the case of a specific epithet formed from the name or acronym of a scientific institution, what should be put in evidence is the relationship to the institution where the study originated or has been performed, not the mere physical place of the laboratory that would hardly be the habitat of the species.

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To our opinion the use of the 'geographical' ending *-ensis/-ense* for the creation of such names must be discouraged because the resulting adjective could be perceived as pointing to a place from where the new species comes, instead of indicating its relationships with the institution. To express these relationships, the creation of a specific epithet based on a substantive (noun) in the genitive case is much more appropriate. The earlier version of the Code (*International Code of Nomenclature of Bacteria*, Lapage *et al.* [2]) gave for Rule 12c the following example of an arbitrary name: *etousae* in *Shigella etousae* derived from European Theater of Operations of the US Army. As this name has no standing in the nomenclature, this example is no longer found in the *International Code of Nomenclature of Prokaryotes* [3]. However other names are found with similarly formed epithets, for example, *unamae* (of Universidad Nacional Autónoma de México; UNAM), *nasdae* (of the National Space Development Agency of Japan; NASDA), and *micro-mati* (of the MICROMAT project – 'Biodiversity of Microbial Mats in Antarctica'). As these examples show, different genders have been attributed to the acronyms for the formation of the genitive case used in these epithets.

Another possible way to form such arbitrary epithets based on names of institutions or acronyms would be the use of a denominative adjective of relationship through the adoption of the *-(i)anus, -(i)ana, -(i)anum* endings, frequently used for this purpose in classical Latin and now used to form specific epithets from personal names, in accordance with Table 3 of *Appendix 9 – Orthography* [3, 4], Table 3 in Trüper [5] and Table 4 in Oren [6]. An example is *Geobacillus icigianus* referring to the Institute of Cytology and Genetics (ICiG) at Novosibirsk. When adopting the above guidelines for the formation of specific epithets for names of prokaryotes based on names of institutions or their acronyms, it will be possible to further reduce the number of new epithets with *-ensis/-ense* endings, limiting their use to a careful application to 'geographical' epithets, and to non-geographical classical Latin adjectives with that ending. Examples of the latter are *hortensis* (of or belonging to a garden) and *pratensis* (growing or found in a meadow), but of course in these cases the noun in the genitive case can be used as well: *horti* and *prati*, respectively.

In view of the above, we propose the following non-retroactive addition to *Appendix 9 – Orthography to the Code* [3, 4], to be added below the examples to I. Arbitrary names, part (1):

Arbitrary specific epithets based on acronyms, e.g. of names of research institutions, universities, etc. are preferentially formed as substantives (nouns) in the genitive case. Use of adjectives with *-(i)anus, -(i)ana, (i)anum* endings is possible as well. The ending *-ensis/-ense* prescribed for geographical locations must be avoided in such cases.

When proposing arbitrary names or epithets, authors should always aim at short, elegant, easily spelled and pronounced ones. As with 'geographical' names, we do not encourage the excessive formation of epithets based on the names of research institutions, for reasons similar to those listed by Trüper [1].

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Conflicts of interest

The authors declare that there is no conflict of interest.

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