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Minireview

MINIREVIEW – Taxonomy & Systematics

Prokaryotic names: the bold and the beautiful

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One sentence summary: The rules and the recommendations of the Prokaryotic Code allow considerable freedom to propose interesting and attractive names for newly described taxa of prokaryotes, but these opportunities are seldom used.

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ABSTRACT

In recent years, names of ∼170 new genera and ∼1020 new species were added annually to the list of prokaryotic names with standing in the nomenclature. These names were formed in accordance with the Rules of the International Code of Nomenclature of Prokaryotes. Most of these names are not very interesting as specific epithets and word elements from existing names are repeatedly recycled. The rules of the Code provide many opportunities to create names in far more original ways. A survey of the lists of names of genera and species of prokaryotes shows that there is no lack of interesting names. The annotated selection presented here proves that at least some authors have exploited the possibilities allowed by the rules of the Code to name novel organisms in ways that are more attractive. I here call upon all colleagues who describe new taxa to devote more thought to the naming of new genera and species. It takes some effort, and it requires proper use of the lexicon of Classical Greek and Latin as well as an understanding of the Code and the guidelines of its orthography appendix. Creation of attractive names will boost the general interest in prokaryotic nomenclature.

Keywords: names; nomenclature; etymology; Latin; Greek; Prokarotic Code

INTRODUCTION

In the past five years, the numbers of names of new genera and new species added to the lists of prokaryotic names with standing in the nomenclature (Parte 2018) were around 170 and 1020 annually, on the average. As list editor and nomenclature reviewer for the International Journal of Systematic and Evolutionary Microbiology (IJSEM), the journal in which new names must be published to obtain standing in the nomenclature, I have seen every single one of those names. My involvement with prokaryotic nomenclature thus allows me to formulate some conclusions about the ways how new names are being proposed.

Every name entered in a Notification List (Notification that new names of prokaryotes and new combinations have appeared in volume . . . , part . . . , of the IJSEM) or Validation List (List of new names and new combinations previously effectively, but not validly, published) in the IJSEM meets the standards set by the Rules of the International Code of Nomenclature of Prokaryotes (ICSP; Parker, Tindall and Garrity 2019). Guidelines how to correctly form such names are found in the instructions provided by Trüper (1999) and Oren (2011, 2019). Most of these names, however, are not very interesting, and they are often boring. The same specific epithets are used again and again. Some of the most widely used specific epithets in the prokaryotic nomenclature are (based on https://lpsn.dsmz.de/; numbers as of 25 April 2020, including synonyms and effectively published names, not including 'Candidatus' taxa): *marinus*, *-a*, *-um* (of the sea, marine), 243; *soli* (of soil), 171; *albus*, *-a*, *-um* (white), 92; *aquaticus*, *-a*, *-um* (aquatic), 83. For the 'geographical' epithets that indicate the location from which the species was isolated I counted *massiliensis*, *-e* (pertaining to Marseille; see Lagier *et al.* 2018), 131; *indicus*, *-a*, *-um* (Indian), 86; *koreensis*, *-e* (Korean), 71 and *japonicus*, *-a*, *um* (Japanese), 47.

The rules of the ICNP provide many opportunities to create new names in ways that are more original. Principle 4 states: 'The primary purpose of giving a name to a taxon is to supply

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a means of referring to it rather than to indicate the characters or the history of the taxon.' Some of the rules explicitly encourage alternatives. Generic names and specific epithets may even be composed in an arbitrary manner (Rules 10a and 12c). For names of genera formed as arbitrary names, the ICNP gives four examples, all based on acronyms: *Afipia* (for AFIP, Armed Forces Institute of Pathology), *Desemzia* (for DSMZ, Deutsche Sammlung von Mikroorganismen und Zellkulturen), *Waddlia* (for WADDL (Washington Animal Disease Diagnostic-Laboratory) and *Cedecea* (for CDC, Centers for Disease Control). A single example was given in Rule 12c for an arbitrarily formed specific epithet: *thetaiotaomicron* in *Bacteroides thetaiotaomicron*, derived from a combination of the Greek letters *theta*, *iota* and *omicron*. The name of this organism, originally described as *Bacillus thetaiotaomicron* (Distaso 1912), is probably derived from the possible resemblance of the morphology of vacuolated forms to the three Greek letters. Referring to Rules 10a and 12c, Trüper (1999) commented that 'these 'rubber' paragraphs open up a box of unlimited possibilities for people whose Latin is at the end. But in view of the million names that will have to be formed in the future they are a simple necessity—whether Latin formalists like them or not.'

Zoologists often love to name new animal genera and species so that the names may be far more interesting than the animals they represent. Here are a few examples of such 'fantasy names' proposed in recent years:

- The dragonfly *Umma gumma* (Dijkstra, Kipping and Mézière 2015). The generic name *Umma* was established already in 1890. *Umma gumma* refers to the 1969 Pink Floyd album 'Ummagumma', and the word is said to be Cambridge slang for making love.

Another reference to pop music is found in:

- *Leucothoe eltoni* (Thomas 2015). This newly discovered amphipod (Crustacea) was named in honor of the rock musician Sir Elton John, and specifically, in reference to the large shoe-like first gnathopod of this species and the oversize boots Elton John wore as the local pinball champion in the 1975 movie 'Tommy'.

In the same category, we find:

- *Phytotelmatrichis osopaddington* (Darby and Chaboo 2015). The name of this beetle (Coleoptera: Ptiliidae) from Peru honors the birthplace of Paddington Bear, the beloved children's literature character created by the UK author, Michael Bond, in 1958; Paddington was an immigrant from 'darkest Peru'.

Similar arbitrary names that have little to do with the properties of the organisms were also used for some eukaryotic microorganisms:

- *Trichonympha hueyi*, *T. deweyi*, *T. louiei* and *T. webbyae* (Boscaro *et al.* 2017). These are flagellated protists from the hindgut of a termite, and were named for Huey, Dewey and Louie, three small and similar nephews of Donald Duck, and Webby, a small and adorable duckling unrelated to Donald Duck but unofficially referred to as the fourth nephew due to her similarity and friendship with the triplets. The fact that these four protists are small, similar and in part related probably inspired the authors to name the species for the Disney characters.
- *Penicillium vanoranjei*, *P. maximae*, *P. amaliae*, *P. alexiae* and *P. arianeae* (Visagie *et al.* 2013), five new species of the genus *Penicillium* (Ascomycota). They honor the Dutch Royal family. *P. vanoranjei* produces orange (Dutch = oranje) colonies, and is named after Willem-Alexander Claus George Ferdinand, 'Zijne Koninklijke Hoogheid de Prins van Oranje' ('His Royal Highness the Prince of Orange') to coincide with his coronation. The other names refer to his wife Máxima and the princesses Catharina-Amalia, Alexia and Ariane.

It is not surprising that the names *Penicillium vanoranjei*, *Umma gumma* and *Phytotelmatrichis osopaddington* were elected among the annual lists of Top 10 New Species by the International Institute for Species Exploration (2014–2016). At the time I was a member of the committee that selected the taxa to be honored in those lists.

Such naming of species after persons not connected with science is not bon ton in bacteriology. Recommendation 10a(1) of the ICNP states: 'Refrain from naming genera and subgenera after persons quite unconnected with bacteriology or at least with natural science.' The current version of the Code (Parker, Tindall and Garrity 2019) does not have an equivalent recommendation for naming species. A proposal to reformulate Recommendation 12c(3) to: 'Specific epithets should not honour the author or any of the co-authors of the proposed species or subspecies, or any persons not connected with bacteriology or at least with natural science' (Oren, Garrity and Schink 2015) is still awaiting approval by the International Committee on Systematics of Prokaryotes (ICSP), the committee in charge of the Code.

Names—the bold and the beautiful

When one searches the lists of names of genera and species of prokaryotes, it becomes apparent that there are plenty of interesting names there as well. The selection presented below, if necessary with explanatory comments, shows that at least some authors have exploited the opportunities allowed by the rules of the code of nomenclature: the current version of the ICNP—the Prokaryotic Code (Parker, Tindall and Garrity 2019) and earlier versions of the International Code of Nomenclature of Bacteria—the Bacteriological Code (Lapage *et al.* 1975, 1992).

Recommendation 6.3 of the ICNP reads: 'Words from languages other than Latin or Greek should be avoided as long as equivalents exist in Latin or Greek or can be constructed by combining word elements from these two languages.' Implementation of this recommendation has led to a number of interesting specific epithets, as shown by the following selection:

- *Aquirufa nivalisilvae* (Pitt *et al.* 2019), from L. adj. *nivalis*, snow covered, and L. fem. n. *silva*, forest; N.L. gen. n. *nivalisilvae*, from the forest of Schnee (snow) gattern; the organism was isolated from a freshwater pond located in a forest in Schneegattern (Lengau), Austria.
- *Bacillus urbisdiaboli* (Liu *et al.* 2019), from L. fem. n. *urbs*, city; L. masc. n. *diabolus*, devil; N.L. gen. n. *urbisdiaboli*, of Devil City. The name refers to Mogui Cheng, Devil City, Xinjiang, China, a desert landscape formed by wind erosion.
- *Streptomyces speibonae* (Meyers *et al.* 2003), from L. fem. n. *spes*, hope; L. masc. adj. *bonus*, good; N.L. masc. adj. *speibonae*, of good hope, to indicate Cape Town, the Cape of Good Hope, South Africa, where the type strain was isolated.
- *Tumebacillus permanentifrigoris* (Steven *et al.* 2008), from. L. part. adj. *permanens*, permanent; L. masc. n. *frigor* cold, frost; N.L. gen. n. *permanentifrigoris*, from permanent cold, referring to the isolation of the type strain from permafrost.

- *Facklamia tabacinasalis* (Collins *et al.* 1999), from N.L. neut. n. *tabacum*, tobacco; L. nasc. adj. *nasalis*, pertaining to the nose; N.L. gen. n. *tabacinasalis*, of snuff.
- *Lactobacillus equigenerosi* (Endo *et al.* 2008), from L. masc. n. *equus*, a horse; L. masc. adj. *generosus*, of noble birth, well-bred; N.L. gen. n. *equigenerosi*, of a thoroughbred horse.
- *Nocardioides salsibiostraticola* (Cho *et al.* 2013), from L. masc. adj. *salsus*, salted; Gr. masc. n. *bios*, life; L. neut. n. *stratum*, layer; L. masc. or fem. suff. *–cola* (from L. masc. or fem. n. *incola*), inhabitant, dweller; N.L. n. *salsibiostraticola*, inhabitant of a salted biofilm.
- *Teichococcus* (*Roseomonas*) *ludipueritiae* (Kämpfer *et al.* 2003), from N.L. masc. n. *ludus*, play, game; L. fem. n. *pueritia*, childhood, youth; N.L. gen. n. *ludipueritiae*, of a kindergarten.
- *Chania multitudinisentens* (Ee *et al.* 2016), from L. fem. n. *multitudo* a large number, crowd; L. pres. part. *sentens* feeling; N.L. part. adj. *multitudinisentens* crowd-sensing, quorum sensing.
- *Microlunatus nigridraconis* (Zhang *et al.* 2016), from L. masc. adj. *niger*, black; L. masc. n. *draco*, dragon; N.L. gen. n. *nigridraconis*, of a black dragon, referring to the Heilong (Black Dragon) Mountain in China from whose slope the type strain was isolated.
- *Polynucleobacter hirudinilacicola* (Hahn *et al.* 2018), from L. fem. n. *hirudo*, a leech; L. masc. n. *lacus*, a lake; L. masc. or fem. suff. *-cola* (from L. masc. or fem. n. *incola*), inhabitant, dweller; N.L. masc. n. *hirudinilacicola*, inhabitant of leech lake (Egelsee in German) (for a map of the site, see the Graphical Abstract).
- *Shewanella inventionis* (Wang and Sun 2016) from L. fem. n. *inventio* an inventing, invention; L. gen. n. *inventionis*, of discovery, named for the unmanned submersible 'Faxian', or 'Discovery'in English, used for sampling of the sediment from which the type strain was isolated.

According to the current version of Rule 6 and its Recommendations, 'The scientific names of all taxa must be treated as Latin' … and (Recommendation 6.3): 'Words from languages other than Latin or Greek should be avoided as long as equivalents exist in Latin or Greek or can be constructed by combining word elements from these two languages' (Parker, Tindall and Garrity 2019). The recommendation that words from languages other than Latin or Greek must be avoided was not present in the older versions of the Code (Lapage *et al.* 1975, 1992). Therefore, there was no problem when in 1992 the name *Mycoplasma simbae* was published (N.L. gen. n. *simbae*, of a lion, based on Latinization of the Swahili word *simba* = lion) (Hill 1992). Today one would prefer the simple Latin equivalent N.L. gen. n. *leonis*, of a lion (Trüper 1999). A similar case is *Streptomyces bluensis* (Mason, Dietz and Hanka 1963), proposed with the following etymology: N.L. masc. adj. *bluensis* belonging to *blue* (from French adj. *bleu*), referring to the blue color of the aerial mycelium. At the time of publication there were already three other *Streptomyces* species with names signifying a blue color: *S. caeruleus*, *S. coelicolor* (based on Latin) and *S. cyaneus* (based on Greek), and therefore finding an alternative name with the same meaning was not an easy task. Moreover, the ending *–ensis* of the adjective is nowadays generally reserved for 'geographical' epithets that indicate the location from which the organism was isolated.

Recommendation 6.3 gives the following exception to the need to avoid languages other than Latin or Greek: 'names derived from typical local items such as foods, drinks or geographical localities for which no Latin or Greek names exist.' Thus, the following 'hybrid' Latin–Chinese and Japanese–Latin names are nice in my opinion:

- *Lactobacillus odoratitofui* (Chao *et al.* 2010), from L. part. adj. *odoratus*, that has a smell, fragrant; N.L. neut. n. *tofuum*, tofu; N.L. gen. n. *odoratitofui*, of stinky tofu, a kind of fermented tofu in Taiwan, from which the type strain was isolated.
- *Bacillus kokeshiiformis* (Poudel *et al.* 2014), from *kokeshi*, a Japanese doll with a long trunk and a cuboid head (see the Graphical Abstract); L. adj. suff. *formis* (from L. fem. n. *forma*, figure, *shape*); N.L. masc. adj. *kokeshiiformis*, with the shape of a Japanese kokeshi doll. The shape of the sporulating *Bacillus* indeed resembles that of the traditional Japanese doll.

Here are a number of other names based on Latin and Greek with different interesting aspects:

- *Acidianus* (Plumb *et al.* 2007), from L. masc. adj. *acidus*, acidic; L. masc. n. *Ianus*, a mythical Roman figure with two faces looking in opposite directions; N.L. masc. n. *Acidianus*, acidic bifaced (bacterium), reflecting the growth conditions and the metabolism of the organisms. Trüper (1999) commented as follows:

'Another colleague correctly formed the generic name *Acidianus* (accentuation: a.cid.ia'nus) from the Latin neuter noun acidum, acid and the Latin masculine noun Ianus, the Roman god with the two faces, by which he wanted to point at the ability of the organism to both oxidize and reduce elemental sulfur. With this spelling the epithet promptly became mispronounced (a.ci.di.a'nus) suggesting a different meaning and causing suggestive jokes. Here the use of the consonantic i, i.e. j would have sufficed to suppress the misinterpretation: acidijanus would be the choice.'

- *Victivallis* (Zoetendal *et al.* 2003), from L. masc. n. *victus*, food; L. fem. n. *vallis*, valley; N.L. fem. n. *Victivallis*, food valley, referring to the Wageningen 'Food Valley', which includes Wageningen and surroundings, an area of the Netherlands in which Food Science is a major research topic. Grammatically the name of this genus is correctly formed, but the name suggest that the organism is a 'food valley', instead of being connected to a 'food valley'.
- *Entomoplasma somnilux* (Williamson *et al.* 1990) from L. masc. n. *somnus*, sleep; L. fem. n. *lux*, light; N.L. fem. n. *somnilux*, intended to mean sleeping light, referring to the quiescent pupal stage of the host from which the organism was isolated, which precedes the luminescent adult stage.
- *Vibrio* (*Beneckea*) *nigripulchritudo* (a name corrected from *nigrapulchritoda* or *nigrapulchritida*) (Baumann *et al.* 1971), from L. masc. adj. *niger*, black; L. fem. n. *pulchritudo*, a beauty; N.L. n. (nominative case in apposition) *nigripulchritudo*, a black beauty, which refers to its striking blue–black colonies. The authors did not state whether the name was inspired by the name of the famous 1877 novel Black Beauty by Anna Sewell.
- *Blautia argi* (Paek *et al.* 2019), from L. gen. n. *argi*, of *Argus* (Gr. *Argos*), in Homer's Odyssey the old faithful dog of Ulysses, referring to the isolation of the type strain from a fecal sample of a mature dog.
- *Meniscus glaucopis* (Irgens 1977), from Gr. fem. n. *glaukopis*, gleaming-eyed, an epithet of the goddess Athena; N.L. masc. adj. *glaucopis*, gleaming-eyed, probably a reference to the presence of refractile gas vacuoles in the cells.
- *Treponema primitia* (Graber, Leadbetter and Breznak 2004); N.L. fem. sing. n. (nominative in apposition) *primitia*, the first fruit [of isolation after long work]; the Latin dictionaries only give the plurale tantum *primitiae*, the first things of their kind, first fruits.

- *Vibrio quintilis* (Lucena *et al.* 2012); L. gen. n. (instead of L. masc. adj. as given by the authors) *quintilis* of the fifth month *quintilis* (*mensis*) (counting from March), of July, intended to mean that the organism was discovered in July.
- *Bradyrhizobium viridifuturi* (Helene *et al.* 2015), from L. masc. adj. *viridis*, green; L. neut. n. *futurum*, future; N.L. gen. n. *viridifuturi*, of a green future, referring to the future use of strains of this species for a green economy.
- *Colwellia marinimaniae* (Kusube *et al.* 2017), from L. masc. adj. *marinus* marine; L. fem. n. *mania*, madness; N.L. gen. n. *marinimaniae*, of marine madness, named after Marine Mania, a high school science group, active on the island of Guam. Following the description of this organism, the Guam Daily Post reported (Losinio 2017):

'George Washington High School's Marine Mania recently had a species of bacterium named in its honor, according to Linda Tatreau, club advisor. Tatreau said the organism, known as the *Colwellia marinimaniae*, has been described by Dr. Doug Bartlett of the Scripps Institute of Oceanography in San Diego as 'the most pressure-adapted microbe ever isolated' ... The species was discovered on amphipods caught in the Mariana Trench ... Marine Mania members consist of high school students who promote environmental and marine awareness. The club started in 1992 ... From working within the school, the club has expanded its reach throughout the island and the Mariana region. Marine Mania has received numerous awards ... The naming of *Colwellia marinimaniae* is an honor to the thousands of students and adults who have worked and played with Marine Mania over the years.'

- *Halorubrum chaoviator* (Mancinelli *et al.* 2009), from Gr. neut. n. *chaos*, empty space, the void; L. masc. n. *viator*, traveller; N.L. n. (nominative in apposition) *chaoviator*, the traveller of the void, referring to the exposure of the type strain to conditions of outer space in the Biopan facility.
- *Candidatus* Desulforudis audaxviator (Chivian *et al.* 2008), from L. masc. adj. *audax*, daring, courageous; L. masc. n. *viator*, traveler; N.L. masc. n. *audaxviator*, a courageous traveler. This name is based on Jules Verne's *Voyage au centre de la Terre*, where the following text in poor Latin is found, encrypted in runic script:

'*In Sneffels Yoculis craterem kem delibat umbra Scartaris Julii intra calendas descende, audas viator, et terrestre centrum attinges. Kod feci. Arne Saknussemm.*'
(Descend into the crater of Yocul of Sneffels, which the shade of Scartaris caresses, before the kalends of July, audacious traveler, and you will reach the centre of the earth. I did it. Arne Saknussem).

- *Dehalogenimonas lykanthroporepellens* (Moe *et al.* 2009), from Gr. masc. n. *lykanthropos*, werewolf; L. pres. part. *repellens*, repelling; N.L. part. adj. *lykanthroporepellens*, repelling werewolves; the name refers to the pungent garlic aroma that is produced when these organism grows in the presence of 1,2,3-trichloropropane as an electron acceptor and sulfide as a reducing agent; garlic is said to repel werewolves in some fiction literature.

According to Recommendation 6(10) of the current version of the Code (Parker, Tindall and Garrity 2019), 'authors should not name organisms after themselves or after co-authors'. Appendix 9 repeats this and adds further explanation: 'Authors should refrain from naming bacteria after themselves or co-authors after each other in the same publication, as this is considered immodest by the majority of the scientific community.' In previous versions of the Code this recommendation was not included. On the contrary, in the 1990 revisions (Lapage *et al.* 1992), Recommendation 12c(3) reads: 'Ensure that, if taken from the name of a person, it recalls the name of one who discovered or described it, or was in some way connected with it, ...'. A similar version is found in the 1976 revision (Lapage *et al.* 1975). This recommendation is confusing, and can even be interpreted as an encouragement for an author to name a novel organism after himself/herself, as he/she is the person 'who discovered or described it', or was more than anybody else 'connected with it'. For unclear reasons this sentence that contravenes Recommendation 6(10) is still present in Recommendation 12c of the current version of the Code. A proposal to reformulate Recommendation 12c(3) was published in 2015 (Oren, Garrity and Schink 2015). The newly proposed text ('Specific epithets should not honour the author or any of the co-authors of the proposed species or subspecies, or any persons not connected with bacteriology or at least with natural science') is still waiting to be discussed and approved by the ICSP.

The number of prokaryotes named by the authors after themselves is small. They include *Eubacterium yurii* (George 'Yuri' Krywolap), *Eubacterium yurii* subsp. *margaretiae* (Barbara Margaret), *Legionella hackeliae* (Meredith Hackel), *Mycoplasma* (*Mesomycoplasma*) *moatsii* (Kenneth Moats) and *Mycoplasma cottewii* (Gillian Cottew), all names added to the nomenclature in the period 1974–1994. In this category I found two names of special interest:

- *Mycoplasma collis* (Hill 1983). The etymology states: L. gen. n. *collis*, of a hill. It was not isolated from a hill, but instead it alludes to the name of the author who described the species, Aureol C. Hill.
- *Clostridium* (*Ruminiclostridium*) *josui* (Sukhumavasi *et al.* 1988), from N.L. gen. n. *josui*, of josu, a word based on the initial letters of the names of the four authors: Jiraporn Sukhumavasi, Kunio Ohmiya, Shoichi Shimizu and Kazue Ueno.

According to Appendix 9, section D (3)(c), 'not more than one person can be honoured in one generic name or epithet'. However, I found two examples of names that refer to more than one person; one is of recent date, and has an interesting etymology:

- *Herbinix luporum* (Koeck, Hahnke and Zverlov 2016). The Latin epithet (L. gen. pl. n. *luporum*) means 'of wolves' and refers to two colleague scientists named Wolfgang: Wolfgang Liebl and Wolfgang Schwarz, for their contributions to the taxonomy and characterization of Gram-positive bacteria.

The second one is based on the authors' initials, and is an example of an arbitrarily formed specific epithet:

- *Corynebacterium jeikeium* (Jackman *et al.* 1987), from N.L. neut. adj. *jeikeium*, based on the initial letters of the surnames of W. D. Johnson and D. Kaye, the doctors who described infections attributed to the taxon in 1970.

When one describes a new bacterium isolated from a healthy or a diseased person, it is good practice, in any case for clinical samples, to protect the privacy of the person from which the sample was collected. Still, there are two names that mention the name of the person who provided the sample, and there even is one named for a diseased horse:

- *Nocardia ninae* (Laurent *et al.* 2007), from N.L. gen. n. *ninae*, of Nina, the first name of the patient from which the type strain was isolated.
- *Micrococcus* (*Kocuria*, *Rothia*) *kristinae* (Kloos, Tornabene and Schleifer 1974), from N.L. gen. fem. n. *kristinae*, of Kristin, named for Kristin Holding, from whom this organism was originally isolated. In this study, micrococci were isolated from the healthy human skin.
- *Macrococcus equipercicus* (Kloos *et al.* 1998), from L. masc. n. *equus*, a horse; N.L. masc. adj. *equipercicus*, pertaining to a horse named Percy, from which this species was first isolated.

Finally, here is an enigmatic name for which I could not find a clear explanation in the etymology:

- *Macrococcus carouselicus* (Kloos *et al.* 1998), from N.L. masc. adj. *carouselicus*, pertaining to a carousel or merry-go-round, which has carousel horses. The type strain was isolated from an Irish thoroughbred horse, and the name was published together with the above-mentioned *Macrococcus equipercicus*. Still, the connection with a carousel is unclear, unless the authors wanted to say that the pathogen came from a horse, and a carousel also happens to have (wooden) horses.

CONCLUSIONS

As the examples presented above show, some authors of descriptions of new taxa have found interesting and intriguing names for their new genera and species of prokaryotes, while following the Rules and the Recommendations of the ICNP. My personal 'Top Ten' specific epithets that I here present as examples of creative naming of new prokaryotic taxa are (in alphabetical order): *audaxviator* (*Candidatus* Desulforudis; Chivian *et al.* 2008); *chaoviator* (*Halorubrum*; Mancinelli *et al.* 2009); *glaucopis* (*Meniscus*; Irgens 1977); *ludipueritiae* (*Teichococcus*; Kämpfer *et al.* 2003); *luporum* (*Herbinix*; Koeck, Hahnke and Zverlov 2016); *lykanthroporepellens* (*Dehalogenimonas*; Moe *et al.* 2009); *multitudinisentens* (*Chania*; Ee *et al.* 2016); *salsibiostraticola* (*Nocardioides*; Cho *et al.* 2013); *tabacinasalis* (*Facklamia*; Collins *et al.* 1999) and *viridifuturi* (*Bradyrhizobium*; Helene *et al.* 2015).

I here call upon all colleagues who from time to time describe new taxa of bacteria and archaea to devote more thought to the naming of the organisms. It takes some effort, and it also requires proper use of the lexicon of Classical Greek and Latin as well as an understanding of the rules of the Code and the guidelines found in its orthography appendix (Appendix 9). Searching for a name for a newly described genus and/or species is often the very last thing authors do before submitting their manuscripts for publication. There are easy ways to find names that are correctly formed in accordance with the Rules of the ICNP, but the result is too often the formation of dull, uninteresting names. With a little effort, and if necessary with the help of more experienced colleagues, it is often possible to create names that will be remembered by many, and that will boost the general interest in prokaryotic nomenclature.

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Conflicts of interest. None declared.

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