



Should all other biologists follow the lead of virologists and stop italicizing the names of living organisms? A proposal

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Abstract

As thousands of viruses were discovered over the years, they were given common names in English and in other languages. Then, about 20 years ago, the category “species” was introduced in virology and the vernacular names of viruses were adopted for use as species nomina and were italicized to indicate that they then referred to taxonomic entities. As a result, virologists should write that a patient was infected “with measles virus” but not “with the species *Measles virus*” nor with “the genus *Morbillivirus*”, since taxonomic classes cannot cause infections. In other fields of biology the great majority of organisms only have Latin species nomina, written in italics, and no vernacular name. As a result, it will be said that a patient was infected with *Bacillus anthracis*, as though that taxonomic entity were able to cause a disease. What is meant, of course, is that the infection was caused by a bacterium that is a member of the species *Bacillus anthracis*. Attributing the infection to a species instead of an organism arises because of the absence of vernacular names for many organisms. However, this logical muddle could be avoided if the writer would use the species nomina of the disease-causing organisms but wrote them in unitalicized Roman letters, as is done with viruses. To do away with logically ill-formed statements, we propose that the names of all biological entities for which there is no common name be derived from the species nomen but written in unitalicized Roman letters. The italicized style would then be reserved for the species to which the entity belongs.

Key words: Use of italics, Vernacular names, Non-equivalence of species and organisms, Taxonomy, Nomen, Nomina, Names, Taxa

It has been said that one would be better off to not discuss religion, politics or taxonomy in polite company. This is a sensible axiom but such discussions cannot always be avoided. Taxonomy is not an earth-shaking topic of discussion in most quarters, but it is a subject biologists discuss because it is important when dealing with living organisms. In all of biology and in many other aspects of life, people use logically ill-formed statements because they often are convenient ways of speaking. Biologists will speak of a burrowing species (rather than speaking correctly of a burrowing animal that is a member of a particular species), of capturing a *Neotoma albigula* (rather than speaking correctly of capturing a white-throated woodrat of that species), and so on. Even the web site for the U.S. Centers for Disease Control and Prevention mentions a patient being infected with *Escherichia coli* 0157:H7 and indicates that *Escherichia coli* 0157:H7 “are a large and diverse group of bacteria” (http://www.cdc.gov/nczved/dfbmd/disease_listing/stec_gi.html#1) and it is common to refer to and consider *E. coli* as a concrete entity, rather than a species taxon (Martinez-Medina et al. 2009). To quote Mahner & Bunge (1997), “these habits of speech facilitate reading and writing and are harmless in most contexts, but can be misleading in others; if they are not recognized for what they are, they may be a source of conceptual confusion...”.

Species is a key taxonomic clustering of organisms in a biological classification. However, what a species