BACTERIOLOGICAL NOMENCLATURE AND TAXONOMY

OPINION 2. THE COMBINING FORMS (STEMS) OF COMPOUND BACTERIAL GENERIC NAMES ENDING IN *BACTERIUM*, *BACTER*, OR *BACTRUM* (*BACTR*)

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Approved by the Judicial Commission of the International Committee on Bacteriological Nomenclature

THE JUDICIAL Commission has been asked to issue an Opinion fixing the combining forms or stems of the last component of names of bacterial genera ending in *bacterium*, *bactrum* (*bactron*) or *bacter*. The literature of bacteriology reveals some confusion as to the manner in which the names of the higher taxonomic groups (taxa) such as families shall be formed from the names of bacterial genera with *bacterium*, *bactrum* (*bactron*) or *bacter* as the last component.

Rule 4 of the International Bacteriological Code of Nomenclature reads:

Names of orders, suborders, families, tribes and subtribes are also words of Greek or Latin origin or Latinized words each with a suffix to indicate its taxonomic rank. The suffix for orders is *-ales*, for suborders *-aceae*, for families *-aceae*, for subfamilies *-iidae*, for tribes *-aceae*, and subtribes *-inae*.

The rules of Latin syntax require that the suffixes listed be added to the stem of the word chosen. If the new name is derived from the name of a genus, the stem of the generic name must be known. The Zoological Code is quite specific.

The name of a family is formed by adding the ending *-idae* to the stem of the name of the type genus.

The ending *bacterium* is the Greek neuter diminutive noun meaning a little staff or cane. An incomplete search of the bacteriological literature reveals more than 80 generic and pseudogeneric names with this ending.

The stem of *bacterium* is *bacteri-*. This stem has been quite consistently used in the formation of the names of the higher taxonomic groups (taxa) of the bacteria, algae, protozoa and insects.

The ending *bactrum* (*-bactron*) is the Greek neuter noun meaning a staff, stick, or cudgel. It is the last component of at least four bacterial, one fungus, one algal and one protozoan generic name. The stem of *bactrum* (*-bactron*) is *-bactr-*. This stem is found in at least 14 compound names of genera and of higher taxa of microorganisms.

The ending *-bacter* in bacterial genera has been a source of real confusion in the formation of names of higher taxonomic groups such as families. Some authors have assumed the stem to be *bacteri-*, others *bactr-* and still others *bacter-*. For example, from *Mycobacter* there have been derived two spellings of the family name, *Mycobacteriaceae* and *Mycobacteraceae*. The confusion is increased because there is a generic name *Myxobacterium* from which *Myxobacteriaceae* might well be derived, and an algal genus *Myxobactron* which would give *Myxobacteraceae*. The stem *-bacter* is found in such names as *Amoebobacteraceae*, a tribal name derived from the generic name *Amoebobacter*. There is no Greek word *bacter*.

However, when Greek words ending in *-ter* are transliterated into the Latin, they are declined as is *aster*, *asteris*, of which the stem is *aster-*. The old bacterial generic name,

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Metallacter is the Greek noun ~~μεταλλοκτηκτης~~ *metallactor*, ~~eris~~. In this case the stem ends in *-cter*, and a family name formed from it would be *Metalliacteraceae*. It may be assumed that the stem of *-bacter* is *-bacter*.

OPINION: The combining form or stem of the last common names ending in *-bacterium* is

-bacteri, of those ending in *-bactrum* or *-bactron* is *bactr* and of those ending in *-bacter* is *-bacter*. Family names derived from such generic names have respectively the endings *-bacteriaceae*, *-bactraceae*, and *-bacteraceae*.

Note: Approved by the members of the Judicial Commission by eleven affirmative votes with three abstentions.