DIMINUTIVES AS GENERIC NAMES IN BACTERIOLOGY

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Many names of genera used in each of the subdivisions of biology (botany, bacteriology, and zoology) have a diminutive suffix. Bacterium, Bacteridium, Bacillus, and Bactridium all have the meaning of "small rod."

The nomenclatural code of each branch of biology clearly approves of the formation of a generic name from the name of a person; generic names are frequently thus dedicated; rather commonly they have a suffix indicating diminution. Usually the generic name is derived from a modern surname.

The zoological "Rules" include two pertinent recommendations (not rules) among the statements relative to the classes of words that may be taken as generic names. One relates to the ending of modern surnames to indicate dedication.

"Names terminating with a consonant take the ending -ius, -ia, or -ium." (Examples: Selysius from Selys, Lamarckia from Lamarck). "Names terminating with the vowels e, i, o, u, or y take the ending -us, -a, or -um." (Examples: Blainvillea from Blainville, Wyvillea from Wyville, Cavolinia from Cavolini, Fatioa from Fatio, Bernaya from Bernay, Quoya from Quoy, and Schulzea from Schulze). "Names terminating with a take the ending -ia." (Example: Danaia from Dana).

Of the generic names given as examples above, with the exception of the masculine Selysius, all end in -a, and are feminine. No example of the use of the neuter ending -ium or -um is included. The tendency in zoology (as in botany and bacteriology) is to put generic names derived from surnames in the feminine form.

The second pertinent zoological recommendation approves the use of:

"Greek or Latin derivatives expressing diminution, comparison, resemblance, or possession."

The recommendation was evidently not intended to authorize

the addition of endings implying diminution in forming generic names from modern surnames. There are many examples, however, among generic names in zoology so derived, as Prowazekella from Prowazek, Schultzella from Schultz, Schaudinnula from Schaudinn, Challengeretta from the ship Challenger, as well as Challengeridium and Challengerilla.

The corresponding recommendations in bacteriology and in botany relative to derivation of a generic name from the name of a person are practically identical except for the examples cited. The Recommendation of the Bacteriological Code reads:

"When a new name for a genus or subgenus is taken from the name of a person, it should be formed in the following manner:

1. When the name of the person ends in a vowel the letter -a is added (thus, Gaffkya after Gaffky; Noguchia after Noguchi; Serratia after Serrati), except when the name already ends in -a, then -ea is added (e.g., Collaea after Colla).
2. When the name of a person ends in a consonant the letters -ia are added (e.g., Escherichia after Escherich, Erwinia after Erwin F. Smith, Pasteuria after Pasteur), except when the name ends in -er, then -a is added (e.g., Kerneria after Kerner). In latinized names ending in -us, this termination is dropped before adding the suffix."

These recommendations have not always been followed in bacteriology; the names formed in contravention to the recommendations are not illegitimate as a result. For example, Neisseria (after Neisser) instead of Neissera and Zopfius (after Zopf) instead of Zopfia are unacceptable form.

An additional Recommendation in the Bacteriological Code (similar in wording to that of the Botanical Code) reads:

"Names may be formed by use of a prefix or a suffix, or modified by anagram or abbreviation. In these cases, they count as different words from the original name. In many cases, the names of bacterial genera are formed by the addition of a diminutive ending. The most common modern convention is to add one of the endings,

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-ellus, -ella, -ellum, preferably -ella, to conform to Recommendation 5a.* In some few cases one of the endings -illus, -illa, -illum has been added."

There is no reason why other diminutives than those indicated above may not be used in the formation of names from personal names (patronymics). A brief review is here given of classical diminutive endings and the ways in which they have been and may be employed.

The Latins used several diminutive suffixes, usually various modifications of -lus, -la, -lum. The exact form of the diminutive ending varies somewhat with the ending of the word to be modified.

1. Words in which the stem ends in -g, -c, -d, or -t usually form the diminutive by adding -ulus, -ula, or -ulum, sometimes -lus, -la, or -lum. For example; rex, regis (stem reg-) a king; regulus, a chieftain; vox, vocis (stem voc-) voice; vocula a small voice; hortus a garden; hortulus a little garden; oppidum a town; oppidulum a little town.
2. Words that end in -us, -a, or -um preceded by e, i, or u, usually form the diminutive by dropping the gender ending and adding -olus, -ola, or -olum. Thus, alveus a cavity; alveolus a small cavity; gladius a sword; gladiolus a small sword; bestia a beast; bestiola a little beast.
3. Words that end in -us, -a, or -um preceded by l, r, or n, usually change the vowel just preceding the consonant to e, and the l, r, or n to ll. Where another consonant immediately precedes the l, r, or n the vowel e is inserted. As a result, many diminutives of Latin nouns end in -ellus, -ella, or -ellum. asinus an ass; asellus a little ass; fabula a story; fabellus a short story; umbra shade; umbella a little shade, an umbrella.

*Recommendation 5a (6) suggests giving a "feminine form to all personal generic names, whether they commemorate a man or a woman."

In other words, the suffix -ella so commonly appended in forming generic names was not a standard Latin suffix, but was developed only for certain words. In view of its general use as a suffix for modern Latin generic names, there would seem to be good reason for accepting it as a standard diminutive ending, at least wherever it is euphonic.

4. The diminutive ending -illus, -illa, -illum sometimes used with patronymics (Welchillus, Meyerillus, Henrillus) to form a diminutive apparently arose from analogy. The Latin diminutive of lapis, lapidis a stone is lapillus. This has apparently been equated with -ellus, -ella, -ellum. It has been used by but few authors. This ending is found in the Latin nouns bacillus and bacillum.
5. Latin stems that end in l, n, r, or s, or in i, u, or e add -culus, -cula, -culum, frequently changing the vowel preceding the final stem consonant to u.
homo, hominis (stem homin-) a man; homunculus a manikin;
virgo, virginis (stem virgin-) a maid; virguncula a little maid;
ignis (stem igni-) a fire; igniculus a spark;
vulpes a fox; vulpecula a little fox;
canis a dog; canicula a small dog.
6. The frequency of diminutives formed as noted under No. 5 supra also led to the recognition of -unculus, -uncula, -unculum as derived suffixes.
rana frog; ranunculus a little frog, a tadpole;
domus a house; domuncula a little house.
7. The suffix -cio may indicate a diminutive,
homo, hominis a man; homuncio a manikin.
8. The suffixes -leus, -lea, -leum may be diminutive,
acus a pin; aculeus a sting.
9. The suffix aster, astris may be a diminutive, as in Antoniaster, a little Anthony, an imitator of Anthony.

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10. The suffix -itta was occasionally used to form the diminutive of a name as Iulitta from Iulia and Pollita from Polla (Paula).

The Greeks also recognized several diminutive endings to be used as suffixes for nouns. Most common were:

1. - ιον = -ium.
παῖς, παῖδος = paes, paedis a child;
παῖδιον = paedium a little child;
πτέρυξ, πτέρυγος = pteryx, pterygis a wing;
πτέρυγιον = pterygium a little wing.
2. - ιδιον = -idium.
οἶκος = oecus house;
οἰκίδιον = oecidium a little house.
3. - αριον = -arium.
παῖς, παῖδος = paes, paedis a child;
παῖδαριον = paedarium a young child.
4. - υδριον = -ydrium.
πόλις = polis a city;
πολύδριον = polydrium a small city.
5. - υλλιον = -yllium.
ἀνθος = anthus flower;
ἀνθυλλιον = anthyllium a small flower.
6. - ισκος = iscus.
κλάδος = cladus a shoot of a tree;
κλαδίσκος = cladiscus a small shoot.
7. - ισκη = -isce.
παῖς, παῖδος = paes, paedis a child;
παῖδισκη = paedisce or paedisca a small girl.
ἀσπίς, ἀσπίδος = aspis, aspidis a round shield;
ἀσπιδίσκη = aspidisce (or aspidisca) a boss, knob.
μάζα = maza a barley-scone;
μαζίσκη = mazisce or mazisca a small scone.

8. -iota, the smallest letter of the Greek alphabet, has been used as a suffix to denote diminution in names of genera derived from personal names, as Colesiota and Borreliota.

One may summarize the utility of diminutive suffixes in the formation of new generic names as follows:

1. The following suffixes expressing diminution seem suitable for use in making new generic names from Latin words. For most of them there is precedent.
 - a. -ulus, -ula, -ulum
 - b. -olus, -ola, -olum
 - c. -ellus, -ella, -ellum
 - d. -illus, -illa, -illum
 - e. -culus, -cula, -culum
 - f. -unculus, -uncula, -unculum
 - g. -cio, -leus, -aster, and -itta rarely.
2. The following suffixes expressing diminution seem suitable for use in making new generic names from Greek words.
 - a. -ium
 - b. -idium
 - c. -arium rarely
 - d. -ydrium rarely
 - e. -yllium rarely
 - f. -iscus and -isce (-isca)
 - g. -iota.

Note that with the exception of -iscus (masculine) and -isce or -isca (feminine) the other Greek diminutive endings are neuter and that, in the Greek, iota is an indeclinable neuter noun, as are the names of most Greek letters.

3. Diminutives that may appropriately be used for addition to personal names should preferably conform to the Recommendation that a feminine form be given to all personal names. These presumably could be either Latin or transliterated Greek feminine endings. These would be

-ula, -ola, -ella, -illa, -cula, -uncula, -itta, -isce, -isca.

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Whether or not iota, when used as a suffix or as the last component of a compound generic name, should confer neuter gender on the noun may be debated. Harper's Latin Dictionary, 1907, lists iota as a neuter indeclinable noun, but adds "sometimes (on account of littera) iota, ae. f." An example of such use as a feminine noun is cited: "littera iotae similis." The gender of generic names ending in -iota was not fixed by usage in the genera Colesiota and Borreliota.

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