

THE STATUS OF THE GENERIC TERM BACTERIUM EHRENBERG 1828*

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The status of the generic term *Bacterium* needs to be clarified by international action, as the status of *Bacillus* has been clarified by the action taken in regard to the proposals drawn up by Buchanan and Conn and reported upon by Breed and St. John-Brooks (1935). The history of *Bacterium* has been well outlined by Buchanan in his *Systematic Bacteriology* (1925). In this he quotes with approval the suggestion made by Breed, Conn and Baker (1918) that a temporary group be recognized to include species of non-spore-forming rods whose relationship to other species is obscure.

As the type species concept has now been accepted as a method of defining generic terms (Art. 18, International Rules of Botanical Nomenclature adopted by the Fifth International Botanical Congress, 1930) suggestions that *Bacterium* be used for (1) non-spore-forming rods (Zopf¹), (2) non-motile rods (Migula), (3) fluorescent pseudomonads (Smith, Vuillemin), (4) the colon-typhoid group (Orla-Jensen, Winslow *et al.*), (5) gram-negative, non-spore-forming rods (Lehmann and Neumann, 1927) are invalid on the ground that the type species *Bacterium triloculare* Ehrenberg, 1828 (monotypy) is unrecognizable. Because this species is unrecognizable, subsequent authors have felt free to redefine the genus. As none of these new definitions has won universal approval, it is necessary to state how the term is being used each time it is used or confusion results.

This situation pointedly illustrates the need for the rule that

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¹ See Buchanan, R. E. (1925) for references not given at the end of this paper.

generic terms not associated with a recognizable type species are invalid and has already led many authors to discard the term (Baumgarten, Sternberg, Fischer, Matzuschita, Schneider, Castellani and Chalmers, Bergey *et al.*, Pribram, 1929); and has caused others (Lehmann and Neumann, 1927, Jordan, 1935) to use it as a more or less temporary name.

Many difficulties in classification disappear where *Bacterium* is retained as a temporary genus, without valid status, to include species of non-spore-forming rods that cannot readily be placed in well recognized and well defined genera. We therefore wish to develop the suggestion made in our 1918 paper into a definite recommendation that *Bacterium* be accepted as a temporary generic term with an admittedly unrecognizable type species *Bacterium triloculare* Ehrenberg to include those species of non-spore-forming, rod-shaped, motile or non-motile bacteria whose relationships to other bacteria are not clear. When relationships to other similar species have been developed by investigation, then this generic term would naturally be dropped.

This would permit, for example, the retention of such a species as *Bacterium radiobacter* in the genus *Bacterium* until its systematic position is better understood without the necessity of placing it in *Achromobacter*; and many similar changes in names could be avoided. It would also give justification to those who wish to be conservative and retain such names as *Bacterium coli*, *Bacterium aerogenes*, *Bacterium violaceum*, *Bacterium amylovorum*, *Bacterium zopfii*, *Bacterium monocytogenes*, *Bacterium pneumoniae*, etc. Those who accept *Bacterium* as a temporary genus could continue the use of binomials such as those quoted above in full conformity with accepted and acceptable usage.

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