NOMENCLATURAL STATUS OF CERTAIN SPECIES OF
THE GENUS LACTOBACILLUS BEIJERINCK

R. E. Buchanan

Department of Bacteriology
Iowa State University
Ames, Iowa

ABSTRACT. Ascriptions of authorship to Dorothy F. Holland of names of species of bacteria in all seven editions of Bergey's Manual of Determinative Bacteriology are incorrect. The names were not validly published.

- - - - -

An addendum to the "Final Report of the Committee of the Society of American Bacteriologists on Characterization and Classification of Bacteriae" (1920, 191-229) by Dorothy F. Holland has been frequently cited as authority for recognition of its author as the author also of the names of bacterial species listed. Her study was printed as Section V of the Committee Report. She was asked by Dr. C.E.A. Winslow as chairman of the Committee to prepare a list of names that had appeared in the taxonomic literature in two orders of bacteria, the Actinomycetales and the Eubacteriales, particularly the genera and their type species as recognized by the Committee. About 700 names of genera and species were included.

A long-continued misunderstanding of the purpose of the list has led to numerous errors in ascription of authorship in successive editions of Bergey's Manual of Determinative Bacteriology, in catalogues of culture collections of bacteria, and in the current literature. Following is the wording by Dorothy Holland of a disavowal which if read understandingly would have prevented much nomenclatural confusion.

V. Generic Index of the Commoner Forms of Bacteria
Prepared for the Committee by Dorothy F. Holland,
Department of Public Health, Yale School of Medicine.

The following index is not intended to be exhaustive or to deal in any sense with problems of specific identity. The literature has not been comprehensively studied and no attempt has been made to arrive at conclusions in regard to the priority of specific names. The list is simply an index of reference to show how the names of species commonly found in the literature should be changed to correspond with the generic classification suggested by the committee. Many of the specific names quoted are known to be synonyms, and the list is therefore in no sense a check list of valid bacterial species. Our hope is that those who wish to use the committee classification can by reference to this list easily replace the older form of any specific name by the newer one which it should bear in accord with the generic arrangement presented above; and in particular that it will facilitate the breaking up of the absurdly incongruous aggregates massed together under the older names Bacillus and Bacterium.

As indicated in the author's statement many synonyms are included (Pseudomonas aeruginosa, P. pyocyaneus, Bacillus pyocyaneus and B. aeruginosa) and vernacular names. The author ascriptions are frequently erroneous and often lacking.

The reason for the continuing error of citing Holland as an author is apparently to be found in the second edition of Bergey's Manual. The Editorial Committee (Dr. Bergey, Chairman) included in the first edition (1920) of the Manual in the genus Lactobacillus Beijerinck (1901) three previously named species, and transferred from other genera twenty-three species. The name of the author of the basionym was placed in parenthesis (brackets) but the designation "comb. nov." or its equivalent was not used. In the second edition of the Manual (1925) eighteen of the species cited "Bergey et al." as the authors, four were cited as L. bulgaricus (Grigoroff) Holland, L. acidophilus (Moro) Holland, L. delbrücki (Leichmann) Holland, and L. Lactis-acidi (Leichmann) Holland, and one was transferred to the genus Achromobacter. Of the fifteen species of Lactobacillus accepted in Bergey's seventh edition, seven have Holland cited as author. The American Type Culture Collection also cites Holland as author of seven species. Many journals designate the Bergey's Manual as an authoritative taxonomic guide, and the nomenclatural error is perpetuated.

REFERENCES

- Bergey, D.H.F., G. Harrison, R.S. Breed, B.W. Hammer and F.M. Hinton. 1923. Bergey's Manual of Determinative Bacteriology. 1st ed. The Williams and Wilkins Co., Baltimore, pp. 1-461.
- _____, _____, _____, _____. 1925. Bergey's Manual of Determinative Bacteriology. 2nd ed. The Williams and Wilkins Co. Baltimore, pp. 1-462.
- Breed, R.S., E.G.D. Murray and N.R. Smith. 1957. Bergey's Manual of Determinative Bacteriology. 7th ed. The Williams and Wilkins Co., Baltimore, pp. 1-1094.
- Holland, Dorothy. 1920. V. Generic Index of the commoner forms of bacteria (pp. 215-229) in Winslow, C.E.A., Jean Broadhurst, R.E. Buchanan, C. Krumwiede, Jr., L.A. Rogers and G.H. Smith. The Families and Genera of Bacteria. J. Bact. 5:191-229.