Book Review

The Aerobic Endospore-Forming Bacteria: Classification and Identification. R. C. W. Berkeley and M. Goodfellow, editors. Published for the Society for General Microbiology by Academic Press, Inc., London. 1981, 373 p., \$36.00.

The genus *Bacillus* was established in 1872 by Ferdinand Cohn, University of Breslau, to encompass a heterogeneous group of spore-forming bacteria. Originally divided into four tribes by Cohn, the number of discrete species increased to 146 in the fifth edition (1939) of *Bergey's Manual of Determinative Bacteriology*. More recently, the number of species has declined to a more manageable figure, but the complexity of the problem still taxes our classification and identification abilities. Were it not for the sporulation characteristic, these bacteria would probably be organized into multiple genera, since many physiological parameters—carbohydrate metabolism, cell wall composition, nutritional requirements, deoxyribonucleic acid base composition (32 to 69% guanine-plus-cytosine content), deoxyribonucleic acid homology, and immunological specificity—differ considerably.

This book is an outgrowth of a symposium held at the University of Cambridge in April, 1979, and organized by the Systematics Group of the Society for General Microbiology. It accomplishes two purposes: it provides a com-

prehensive and current review of the systematics of spore-forming bacteria, and it also provides an excellent exhibition of the results of modern techniques now being applied to classification and identification of bacteria. Techniques include deoxyribonucleic acid homology, lipid composition, biochemical properties (Analytab Products tests), numerical analysis, pyrolysis, gas-liquid chromatography, and serology studies. The index refers to more than 170 species and subspecies of *Bacillus* plus dozens of other aerobic spore-forming species. The latter include the *Sporosarcina* and *Sporolactobacillus* spp., and a review is presented of what is currently known about these organisms and their relationships to the genus *Bacillus*. A history of the identification and classification of the actinomycetes is also included.

The Aerobic Endospore-Forming Bacteria will be a valuable addition to the personal bookshelves of practitioners and theoreticians of bacterial identification and systematics, especially in applied areas. It is also recommended for the biomedical libraries of research universities.

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