THE INTERNATIONAL JOURNAL OF SYSTEMATIC BACTERIOLOGY
Vol. 20, No. 1 January 1970 pp. 23-24
Copyright 1970, Iowa State University Press

SYNONYMY OF SPECIES OF CORYNEBACTERIUM:
PRIOFUTY OF C. ACNES

Charles H. Zierdt

Clinical Pathology Department
National Institutes of Health
Bethesda, Maryland 20014

The communication of Moore et al. (Intl. J. System. Bact. 18:283-274, 1968) requires some comment. If Dr. Moore believes that he has knowledge of anaerobic Corynebacterium species other than C. acnes, it would behoove him to report these with the necessary supportive data. The conclusions reached in the report of Zierdt et al. (Intl. J. System. Bact. 18:33-47, 1968) were simply that all of the species studied had the same characteristics, that by rules of priority one of them, C. acnes, was validly named and the others should be considered junior synonyms of C. acnes (Gilchrist 1900) Eberson 1918. There was no implication intended that there might not be described further anaerobic species of the genus.

The aerobic C. pyogenes (Glage 1903) Eberson 1918, an important animal pathogen validly published and legitimate, was described adequately by a number of early workers, one of whom was Künnean (1903). However, L. Roux (1905) reported a microaerophilic organism from bovine material to be an "anaerobic variant" of Künnean's Bacillus pyogenes bovis.

The aerobic animal pathogen C. pyogenes was not the subject of the study by Zierdt et al. Instead, it was the anaerobic C. pyogenes bovis (Roux 1905) Prévot 1938, C. pyogenes (Prévot 1966). This perhaps was not entirely clear in the study report. The organism described by Roux should be properly designated a junior synonym of C. acnes.

One sentence of Dr. Moore's communication especially merits reply: "We further suggest that serological differences and phage specificity do not constitute characteristics that are valid for genus or family separation of closely related species that have similar cell wall composition and metabolic pathways." Those who criticize the use of bacteriophage in classification are usually those who are not
familiar with its use and relative value, which, of course, must be determined for each species. In our experience bacteriophage action on C. acnes is the most sensitive and specific diagnostic test yet devised. This applies in lesser degree to serologic confirmation of the species. Taxonomists might recognize more the value of these proven techniques. The reasons given for considering them invalid are often specious. The sum of the morphological and biochemical data in the report, concerted with the other cultural descriptions, but excluding serological and bacteriophage data, leads to the same conclusions concerning speciation in Corynebacterium.

Cell wall composition is a new and interesting study, but to cite it as a sine qua non of species separation is perhaps premature. The invoking of "metabolic pathways" by Dr. Moore, as a means of species differentiation is certainly laudable, but the biochemical tests reported in our work just as surely represent metabolic pathways.


The first validly published description of C. acnes is that of Gilchrist 1900. Its priority is not challenged. All of the other six species are based upon later descriptions.

BIBLIOGRAPHY


