International Committee on Systematic Bacteriology Subcommittee on Gram-Negative Anaerobic Rods

Minutes of the Meeting, 18 and 19 June 1980

Gifu, Japan

Minute 1. Call to order. In the absence of H. Werner, the meeting was called to order by Ella M. Barnes, Acting Chairman, at 9:10 a.m. on 18 June 1980 and at 9 a.m. on 19 June 1980.

Minute 2. Record of attendance. The following members were present: Ella M. Barnes (Acting Chairman), H. S. Goldberg (Secretary), H. Beerens, J. Bittner, T. Hofstad, W. J. Loesche, T. Mitsuoka, A. Sonnenwirth, and K. Ueno. In addition to the above, J. Johnson, Kunitomo Watanabe, and I. B. M. Frew were present.

Minute 3. *Bacteroides oralis* and *B. ruminicola*. The Subcommittee discussed recently published information and further unpublished data presented by J. Johnson and T. Mitsuoka concerning both phenotypic and genotypic properties. Within *B. oralis* there were at least four distinct groups, and the Subcommittee remains interested in published reports of newly isolated strains somewhat different than the approved list (1980) *B. oralis* VPI type strain. Such issues as anatomical site, homology, salicin metabolism, and human versus animal strains continue to cause some confusion. Additional strains will be studied. With *B. ruminicola* evidence was also presented that there are a number of closely related organisms which differ in their guanine plus cytosine content and also in their deoxyribonucleic acid homologies.

Minute 4. *B. asaccharolyticus*, *B. melaninogenicus*, and subspecies. The separation of *B. asaccharolyticus* into two species, the oral isolates now being known as *B. gingivalis*, is further reinforced by the specificity of a commercially available fluorescent-labeled antiserum which fails to react with oral strains. Further divisions within *B. melaninogenicus* and the creation of new species are anticipated.

Minute 5. *Fusobacterium*. Strains previously known as *F. fusiformis* and *F. polymorphum* are at present included in the species *F. nucleatum*, the type strain being cited as ATCC 25586. Further evidence was presented that there are two distinct species, *F. fusiformis* and *F. nucleatum*, differentiated on nitrate utilization and saccharolytic activity. The Subcommittee agreed to examine further strains, in particular the relationship between *F. nucleatum* ATCC 25586, *F. fusiformis* SOR, and *F. nucleatum* BER. Further information from T. Hofstad included differentiation of a number of species and strains on their fatty acid

composition. Some question on the relationship of *F. nucleatum* BER to *Capnocytophaga* has been raised.

Minute 6. Serology. The Subcommittee looked at the current status of serological procedures used in the identification of the gram-negative anaerobic rods. Immunofluorescence appears to be the most accepted and successful method to date. A variety of direct and indirect methods are available using whole cells, capsular antigen, and surface proteins in these tests. In addition, the enzyme-linked immunosorbent assay procedure has been used successfully in several laboratories in the identification of *B. fragilis* and related strains.

In most immunofluorescence procedures, it has been difficult to separate *B. fragilis* subsp. *fragilis* from *B. vulgatus*, *B. thetaiotaomicron*, and *B. distasonis*. There is, however, consensus that a *B. fragilis* species-specific polysaccharide antigen does exist. Other shared antigens remain to be identified.

Occasional false-positive results with *Escherichia coli* and legionellae have been reported, but not confirmed.

Minute 7. Homology. It seems clear, on the basis of *Bacteroides* homology studies to date, that phenotypically similar strains can be heterogeneous by deoxyribonucleic acid homology. Decisions will eventually have to be taken on how to deal with this problem.

Minute 8. Current membership. The present membership of the Subcommittee consists of: H. Werner (Chairman), Bonn-Venusberg, F.R.G.; H. S. Goldberg (Secretary), Columbia, Mo., U.S.A.; H. Beerens, Lille, France; E. M. Barnes, Norwich, U.K.; J. Bittner, Bucharest, Romania; M. P. Bryant, Urbana, Ill., U.S.A.; S. M. Finegold, Los Angeles, Calif., U.S.A.; T. Hofstad, Bergen, Norway; W. J. Loesche, Ann Arbor, Mich., U.S.A.; T. Mitsuoka, Wako, Saitama, Japan; W. E. C. Moore, Blacksburg, Va., U.S.A.; A. C. Sonnenwirth, Saint Louis, Mo., U.S.A.; K. Ueno, Gifu-Shi, Gifu-Ken, Japan.

Minute 9. Next meeting. The next meeting of the Subcommittee will be held during the International Congress for Microbiology in Boston in 1982.

Minute 10. Adjournment. The meeting adjourned at 11:56 a.m., 19 June 1980.

HERBERT S. GOLDBERG, *Secretary*