International Committee on Systematic Bacteriology Subcommittee on *Pseudomonas* and Related Organisms

Minutes of the Meeting, 3 and 5 September 1978

Munich, F.R.G.

Minute 1. Call to order. The meeting was called to order by the Chairman, J. M. Shewan, at 1415 on 3 September 1978 and reconvened on 5 September to complete the agenda.

Minute 2. Record of attendance. Members present were: J. M. Shewan (Chairman), M. E. Rhodes-Roberts (Secretary), D. W. Dye, O. Lysenko, N. J. Palleroni, R. H. W. Schubert, M. Véron, and E. Yabuuchi.

Minute 3. Minutes of the previous meeting. The minutes of the meeting in Jerusalem in August 1973 were published (Int. J. Syst. Bacteriol. 24:387-388, 1974), and it was agreed that they were a correct record.

Minute 4. Changes in membership and officers. The resignation of Chairman J. M. Shewan was accepted with regret and sincere appreciation for his services was expressed. D. W. Dye was unanimously elected to the office. M. E. Rhodes-Roberts was re-elected as Secretary.

Minute 5. Report on *Zoogloea ramigera*. A request from the Judicial Commission for an opinion concerning the status of the generic name *Zoogloea* and the suitability of two different strains, namely, strain 1-16-M Crabtree and McCoy 1967 and strain 106 Unz 1971, as neotype strains of *Z. ramigera* has been answered primarily by M. Véron, with assistance from R. Schubert and J. Shewan. A report of the findings was summarized by the Secretary and forwarded to the three participants and to the Chairman of the Judicial Commission. Véron was of the opinion that strain 106 Unz 1971 was more similar than strain 1-16-M to the original strain *Z. ramigera* Itzigsohn, but that it should be designated as a neotype strain of *Pseudomonas*, i.e., *Pseudomonas ramigera*, and that the species description of *P. ramigera* should be amended to contain the characteristics described for the strain 106 of Unz. Shewan expressed the view that *Zoogloea* spp. should be assigned to *Pseudomonas* and that J. De Ley should be approached to request examination of the two strains using the deoxyribonucleic acid-ribonucleic acid hybridization techniques. Simultaneously, the Secretary had received a request from De Ley requesting strains of *Zoogloea*, so the two candidate strains of *Z. ramigera* have been sent to Ghent by Véron for the hybridization studies.

Minute 6. Minimum standards for the adequate description of a new species of *Pseudomonas*. The Secretary reported that, despite repeated requests, only two replies had been received from members regarding their views about the minimal amount of information which should be available before the description of a new species of *Pseudomonas* is acceptable. The Secretary expressed the opinion that the criteria specified for the definition of the genus *Pseu-*

domonas Migula 1894 by Doudoroff and Palleroni in the 8th edition of *Bergey's Manual* (p. 217) should certainly be included. More detailed proposals from Palleroni (personal communication, 22 January 1972) pertinent to new species descriptions had been received by the Secretary; it was agreed to write to the Judicial Commission for further guidance on this item, because it was apparently a confused issue for several Subcommittees.

Minute 7. Lists of approved and rejected species names. The first draft of the Approved Lists of Bacterial Names was composed by an ad hoc committee of the Judicial Commission of the ICSB and published (Int. J. Syst. Bacteriol. 26:563-599, 1976). Considerable revision had occurred since then, and the particularly difficult problem of the nomenclature of the phytopathogenic isolates of *Pseudomonas* and *Xanthomonas* (which can often only be differentiated by the susceptible host plants and not by any known laboratory tests) has been thoroughly reviewed and discussed by Young et al. (N.Z. J. Agric. Res. 21:153-177, 1978). All the opinions and information submitted by members of the Subcommittee to the Secretary have been card-indexed and the information, synthesized in the form of lists, was placed before members at the first meeting in Munich. This collated information took the form of: (i) the *Pseudomonas* genus definition to which all species must comply; (ii) a list of 114 species (including pathovar rank) names which were approved, citing the species name location in the 8th edition of *Bergey's Manual*, the authority for the name, and the Culture Collection numbers of the recommended reference, type, or neotype strains; (iii) a list of 265 unwanted species names, with the authority for the name and the reasons for rejection; and (iv) 23 species names about which members of the Subcommittee had queries or differing opinions. Members were asked to scrutinize these lists and forward any comments or corrections, additions or deletions, to the Secretary by 31 December 1978. In August 1978, V. B. D. Skerman sent to the Chairman and Secretary a considerable list of type and neotype species names of *Pseudomonas* and *Xanthomonas*, and queries concerning them, for checking. This was completed and returned to Skerman, together with a copy of the lists currently before the Subcommittee.

Minute 8. Future activities. Because of the considerable amount of outstanding work in connection with the above items, and especially the approved lists, it was decided to defer the remaining items on the agenda, which represented suggestions for future activities of the Subcommittee. It was unanimously agreed that both *Pseudomonas* and *Alteromonas* were themselves heterogeneous groups of organisms, possi-

bly containing clusters of organisms differentiable at the genus level, e.g., the *P. acidovorans* group and the *P. solanacearum* group, but that relevant research work was still in progress so that further consideration of such taxonomic problems would be premature.

Minute 9. Open Meeting. During the open meeting of the Subcommittee on 5 September, about 7 additional people were present, and in addition to two reports from members concerning the serotyping of *P. aeruginosa*, N. J. Palleroni read a paper entitled, "New developments in the taxonomy of the hydrogen pseudomonads."

Minute 10. Current membership. The current mem-

bership of the Subcommittee is as follows: D. W. Dye (Chairman), Auckland, New Zealand; M. E. Rhodes-Roberts (Secretary), Aberystwyth, U.K.; J. De Ley, Ghent, Belgium; P. V. Liu, Louisville, Ky., U.S.A.; O. Lysenko, Prague, Czechoslovakia; N. J. Palleroni, North Caldwell, N.J., U.S.A.; M. N. Schroth, Berkeley, Calif., U.S.A.; R. H. W. Schubert, Frankfurt, F.R.G.; M. Véron, Paris, France; E. Yabuuchi, Moriguchi-Shi, Japan.

Minute 11. Adjournment. The final meeting adjourned at 1730.

MURIEL E. RHODES-ROBERTS, *Secretary*

International Committee on Systematic Bacteriology Subcommittee on Taxonomy of the *Rickettsiales*

Minutes of the Meeting, 7 September 1978

Munich, F.R.G.

Minute 1. Call to order. The meeting was called to order at 1400 on 7 September 1978 by Chairman R. A. Ormsbee.

Minute 2. Record of attendance. Members present were: I. Tarasevich, E. Edlinger, J. Orfila, Y. Becker, A. Tamura, and R. Ormsbee. L. Page, co-opted as a special expert, was also present.

Minute 3. Minutes of the previous meeting. After appointment of the Subcommittee late in 1973, one meeting had been held in Smolenice, Czechoslovakia, on 23 June 1976. The minutes of that meeting, previously sent to the Chairman of ICSB, were reviewed.

Minute 4. Previous review by mail of specific names of organisms included under the order *Rickettsiales* and listed in the first draft of the Approved Lists of Bacterial Names was briefly discussed, and the additional following actions were recommended to the ad hoc Committee of the Judicial Commission: delete *Haemobartonella muris-musculi*, *Rickettsia burneti*, (species incertae sedis [sis]), *Wolbachia ctenocephali* (sis), *Wolbachia culicis* (sis), *Wolbachia dermocentrophilus* (sis), *Wolbachia linognathi* (sis), *Wolbachia pulex* (sis), *Wolbachia sericea* (sis), and *Wolbachia trichodectae* (sis); retain *Rickettsia sennetsu* (sis), *Rickettsiella stethorae* (sis), and *Haemobartonella tyzzeri* (sis).

Minute 5. L. Page presented "Proposed minimal criteria for establishing a new species in the genus *Chlamydia*," which had been worked out by members of the Subcommittee on the Rickettsias, Taxonomy Committee, American Society for Microbiology. He suggested that similar minimal criteria for *Rickett-*

siales would be helpful. Page's proposal concerning *Chlamydia* follows:

"The basic publication must document:

a. that the typical chlamydial developmental cycle is demonstrable in electron micrographs of microcolonies of the new strain;

b. that the new strain has one or more of the chlamydial group antigens demonstrable by cross-reaction of homologous and heterologous chlamydial antigens and antisera;

c. whether glycogen is produced in microcolonies of the new strain and whether multiplication in chicken embryos is inhibited by sodium sulfadiazine;

d. the morphological and/or biochemical features that distinguish the new strain from recognized species; in particular, the determination that the new strain differs from recognized species in terms of DNA homology by a factor of 50 percent;

e. that the candidate strain has been deposited in a recognized culture collection;

f. that any proposed new species epithet for the candidate strain be checked for prior usage in *Index Bergeyanna* and for the appropriate latinized ending in the *Bacteriological Code*."

The Subcommittee decided to defer any decision on Page's proposal to recommend adoption of a corresponding set of criteria for *Rickettsiales* at this time, or to recommend adoption of his proposed criteria for the chlamydiae. Becker, Orfila, and Page will work together further on minimal criteria for new species for *Chlamydia*, which can be presented for consideration at the next meeting of the Subcommittee.