International Committee on Systematic Bacteriology

Subcommittee on the Phage-Typing of Staphylococci

Minutes of the Meeting, 26 September 1974

Hotel International, Brno, Czechoslovakia

1. Call to order. The Sixth Meeting of the Subcommittee was called to order on 26 September 1974. In the absence of the Chairman (P. M. Rountree), R. Skalova was appointed acting Chairman of the Sixth Meeting.

2. Record of attendance. Members present were: R. Skalova (acting Chairman), E. Asheshov (Secretary), J. Beumer, J. Borst, H. Erwa, J.-M. Fouace, R. Gharagozloo, M. Grigorova, A. W. Jackson, V. Matejovska, W. Meyer (also representing H. Rische), P. Oeding, and M. T. Parker. Two members who were unable to attend the meeting sent representatives: H. Milch (represented by V. Cadó) and M. Rotter (represented by G. Welwalke).

The meeting was open and six visitors were present.

3. Minutes of previous meeting. The minutes of the Fifth Meeting of the Subcommittee (Int. J. Syst. Bacteriol. 21:165, 1971) were tabled.

4. Membership and officers. Amendments to the list of members were noted; the necessary corrections appear in the revised report of the Subcommittee. No changes were made in the officers of the Subcommittee.

5. Report on the 6th comparative typing test. After discussion of this report the Subcommittee recommended that the tests be continued in their present form.

6. Composition of medium for staphylococcus phage typing. The Subcommittee agreed that the use of an international standard typing medium, though desirable, was not possible at the present time. Many countries are having difficulty in obtaining adequate supplies of agar and, since the type of agar used is, perhaps, the single most important variable in the medium, this shortage will undoubtedly present serious problems for the standardization of medium in the immediate future. Although no international standard medium can be recommended at present, it was urged that, as far as possible, the same medium be used in individual countries. It was further agreed that, in view of the shortage of agar, any modification in typing methods that would lead to a more economical use of medium should be considered.

7. Evaluation of seven experimental phages. Reports on the value of seven experimental phages were received from 20 countries. Three phages, numbers 94, 95, and 96, were found to be useful in typing otherwise untypable strains in the majority of countries. The Subcommittee therefore recommended that these three phages be added to the basic set. Although the other four phages were useful in particular countries, they had little general usefulness. It was agreed that these should continue to be used as additional experimental phages by laboratories in those countries where they were of value.

8. Modification of the basic set of typing phages. Some modification of the basic set was necessary to make room for the three new phages; otherwise their addition to the present set would bring the total to 25. The use of pools of phages was considered but was rejected on the grounds that the control of the individual constituents of pools was too difficult for the average routine laboratory. In the past, space for new phages has been made by removing less-useful phages from the set. The Subcommittee considered that this was probably the best procedure and decided that phages 42D and 187 should be removed with the proviso that these two phages be maintained in national laboratories as extra phages to be used when required. The new basic set thus consists of 23 phages.

9. Strength of phages to be used for typing. It has been the rule since 1966, when phages 84 and 85 were added to the basic set, that new phages should be used only at RTD and not at $RTD \times 1000$ or $RTD \times 100$. A report was presented by K. Rosendal in which it was shown that this practice not only leads to a decrease in typability but also makes it difficult to recognise epidemiologically related strains. The Subcommittee, therefore, decided that this practice should stop and that, in the future, all phages should be used at both concentrations.

A. W. Jackson opened a discussion on the feasibility of using a single concentration of phage for typing staphylococci. The present practice is to type strains with the phages diluted to RTD and to retype strains that fail to show any strong reaction with the phages at a 100-times-greater concentration ($RTD \times 100$). The concentration of phage defined as RTD, i.e., that producing semiconfluent lysis when the phage is tested on its propagating strain, was adopted originally because it allowed one to recognise easily that the phage was diluted correctly. However, it was pointed out that, should typing phages be used at a single higher concentration, the testing of an appropriate dilution of the phage would provide a suitable sensitive control. It was therefore agreed that a trial should be organized in which a number of national laboratories would investigate the possibility of using the typing phages at, for example, $10 \times RTD$, $25 \times RTD$, and $50 \times RTD$ to determine whether a single concentration gave as good results as the present method both from the point of view of over-all typability of strains and of allowing recognition of epidemiologically related strains.

10. The use of experimental phages. A number of phages not in the basic set are useful in identifying untypable strains in particular countries, and laboratories have been encouraged to use such locally useful phages. It was the rule, however, that reactions obtained with them could only be reported when the

strain was untypable with the basic set of phages at both RTD and RTD $\times$ 100. This is uneconomical of both time and material, and it was decided that it should be discontinued. In the future, reactions with additional phages may be accepted without the need to re-type strains with basic-set phages at RTD $\times$ 100.

In reaching this decision it was realized that the new rule might lead to a failure to recognise as similar strains typed in two different countries, e.g., a strain that is untypable with basic set phages at RTD but is lysed by an additional phage used in one country may be the same as a strain reported as typable with some

basic set phages at RTD $\times$ 100 in another country in which the same additional phage is not used. However, the spread of particular epidemic strains of staphylococci throughout the world, which was a feature of the 1950s and 1960s, appears to happen less often now. As a consequence, the need to recognise such strains and to trace their spread internationally is probably less important than in the past. If it should recur, ad hoc studies by national typing centers could be arranged.

Elizabeth H. Asheshov, *Secretary*
Radmilla Skalova, *Acting Chairman*

International Committee on Systematic Bacteriology

Subcommittee on the Taxonomy of *Listeria* and Related Bacteria

Minutes of the Meetings, 23 and 25 September 1974

University of Nottingham School of Agriculture, Sutton Bonnington, England

1. Call to order. The pro tem Chairman H. J. Welshimer called the meeting to order at 9:45 AM on 23 September. A second closed meeting was held at 3 PM on the same day and a third was held at 8:00 PM on 25 September.

2. Record of attendance. Those present were J. Donker-Voet, N. Ivanov, D. Jones, S. Ortel, B. S. Ralovich, H. P. R. Seeliger, H. J. Welshimer, M. Woodbine. By invitation, for the morning meeting of 23 September only, P. H. A. Sneath and A. L. Courtieu were present as observers.

3. Proposed list of species names to be included in the genus *Listeria*. Professor Seeliger explained that the list of proposed species names should be produced as soon as possible. It was decided for the time being to include *Listeria monocytogenes*, *Listeria denitrificans*, *Listeria grayi*, and *Listeria murrayi* and to list the type strains of each species as they appear in the eighth edition of *Bergey's Manual* (1974).

4. Minimal standards for examination and identification of *Listeria* and related bacteria. B. S. Ralovich and D. Jones were delegated to draw up a list of tests and methods as a basis for discussion at a later meeting. The method of presentation of Standard Methods used by the Subcommittee on the Taxonomy of the Genus *Bacillus* was drawn to the attention of the Subcommittee by H. P. R. Seeliger and met with general approval.

5. Consideration of other taxa related to *Listeria*. The Subcommittee thought that some study should be given to *Erysipelothrix*, *Microbacterium thermosphactum*, and some gram-positive, nonsporulating rods of uncertain identity, e.g., those isolated by Thornley and Sharpe (J. Appl. Bacteriol. 22:368-376,

1959).

The meeting adjourned at 12.30 PM.

6. Composition of Committee. H. P. R. Seeliger took the Chair and invited nominations for Chairman. H. J. Welshimer was elected unanimously. D. Jones was elected Secretary. J. Donker-Voet, N. Ivanov, S. Ortel, B. S. Ralovich, H. P. R. Seeliger, and M. Woodbine agreed to continue to serve on the Committee. An invitation was extended to A. L. Courtieu to become a Corresponding Member. It is hoped in the near future to invite one or two workers with an interest in *Erysipelothrix* to join the Committee.

7. Liaison with other Committees. It was decided to appoint two members, N. Ivanov and D. Jones, to liaise with the Subcommittee on *Corynebacterium* and *Nocardia* and with the Subcommittee on Lactobacilli and related organisms, respectively.

The meeting was adjourned at 4:30 PM.

8. Discussion of methods. B. S. Ralovich and D. Jones presented a list of 15 methods for the identification of *Listeria* and related bacteria. There was much discussion of the individual tests. It was decided that the information should be collated by D. Jones and that the first set of methods plus the strains to be examined by these methods should be sent by D. Jones to all members. Their collective experience could then be evaluated and the final recommended methods could then be drawn up.

9. Next meeting of the Subcommittee. It is planned to hold the next meeting of the Subcommittee in 1977 either in Bulgaria or in Spain.

D. Jones, *Secretary*
H. J. Welshimer, *Chairman*
21 October 1974