BACTERIOLOGICAL NOMENCLATURE AND TAXONOMY

SHIGELLA SPECIES NOMENCLATURE AND CITATION OF AUTHORITY

Request for an Opinion by the Judicial Commission

Presented by J. S. K. Boyd and S. T. Cowan

Note. The following letter was sent to all members of the International Enterobacteriaceae Subcommittee of the International Committee on Bacteriological Nomenclature.

"The Report of this Subcommittee was accepted by the International Committee on Bacteriological Nomenclature at its meeting during the fifth International Congress at Rio de Janeiro, but all questions of nomenclature were reserved to the Judicial Commission. Some of the species names proposed by the Shigella Commission are not in accordance with the rules of bacteriological nomenclature and, in order to make them legitimate, action by the Judicial Commission will be necessary. To get this action, Brigadier Boyd and I are formally presenting to the chairman of the Judicial Commission a request for an OPINION, a copy of which is enclosed with this letter."

(Signed) S. T. Cowan

The Enterobacteriaceae Subcommittee of the International Committee on Bacteriological Nomenclature has proposed a new classification of species of the genus *Shigella*. Briefly, strains of Shiga's dysentery bacillus, Schmitz' bacillus, and the Large-Sachs group become different serotypes of *Shigella dysenteriae* (Shiga) Castellani and Chalmers; mannitol-fermenting strains sharing common group antigens become serotypes of *Shigella flexneri* Castellani and Chalmers; and those not sharing common group antigens become *Shigella boydii* Ewing. Sonne's dysentery bacillus remains *Shigella sonnei* (Levine) Weldin.

The Nomenclature Committee accepted the report of the Enterobacteriaceae Subcommittee but reserved to the Judicial Commission all questions of nomenclature. The taxonomic scheme was developed by competent workers and, as it is likely to be used extensively in the future, it is desirable that the Commission should consider the names proposed, and issue an Opinion on their legitimacy.

The Subcommittee recommends the name *Shigella flexneri* for the mannitol-fermenting strains that share common group antigens. *Shigella flexneri* was used by Castellani and Chalmers but the specific epithet was

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antedated by *Bacillus parady-senteriae* Collins which, in turn, was antedated by *Bacillus dysenteriae* Flexner. *Bacillus dysenteriae* Flexner is a later homonym of *Bacillus dysenteriae* Shiga and consequently is invalid (Principle 9 and Rule 24 (4) as amended at Rio). The validity of the specific epithet *parady-senteriae* is doubtful, the definition of Collins (1905, *J. infect. Dis.*, 2, 620) seems to make it invalid under Rule 14. Collins' description reads:-

"The term parady-sentery (sic) is applied to the types which ferment mannite and differ in their agglutination reaction, but in all other respects correspond to the organism isolated by Shiga as the cause of dysentery." Shiga's bacillus differs from Flexner's in several characters other than mannitol fermentation and agglutination; catalase and indole production are two examples. If the Judicial Commission agree that the specific epithet *parady-senteriae* can be rejected under Rule 14, then *Shigella flexneri* Castellani and Chalmers appears to be the valid name of this species. If, on the other hand, the Commission accepts Collins' description of the species as adequate, *Shigella flexneri* remains a later synonym, and the Subcommittee's recommendation can only be validated by making this name an *epitheticum specificum conservandum*.

Schmitz' bacillus has been named *Bacillus ambiguus* Andrews, *Bacillus dysenteriae* "Schmitz" Murray, *Bacterium ambiguum* Levine, *Eberthella ambiguum* Bergey et al., *Bacillus parady-senteriae* X Stutzer, *Bacterium schmitzii* Weldin, *Shigella ambigua* Weldin, and *Shigella schmitzii* Hauduroy et al., and in the new classification it becomes *Shigella dysenteriae*, type 2,

The problem here refers to the correct author citation; can all these serotypes be cited correctly as *Shigella dysenteriae* (Shiga) Castellani and Chalmers, types 1 to 7 in accordance with Rule 21, or has each individual type to be considered separately? In the case of Schmitz' bacillus Murray used the name *Bacillus dysenteriae* "Schmitz" and strict application of Rule 16 might require the authority to be cited as follows: *Shigella dysenteriae* (Murray) Castellani and Chalmers, type 2, Enterobacteriaceae Subcommittee.

There is no difficulty in accepting *Shigella boydii* Ewing as a valid name but *Shigella sonnei* (Levine) Weldin is antedated by *Bacillus ceylonensis* A Castellani. If the Subcommittee's recommendations are accepted and the epithet *sonnei* is to be retained, the Commission will have to conserve it against all earlier names.

Note added by S. T. Cowan after

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the request for an Opinion had been presented.

The Subcommittee cite *Bacillus* *ceylonensis* A as a synonym of *Shigella sonnei* but Castellani's original paper describes

B. ceylanensis A as producing acid from glucose but not from mannitol, lactose, or sucrose. From this description it is clear that *B. ceylanensis* A is not a synonym of *Shigella sonnei*.