DEFINITION OF GENERA AND SPECIES OF
ENTEROBACTERIACEAE¹

Request for an Opinion

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To the Judicial Commission:

In the preceding paper by F. Kauffmann: "On the principles of classification and nomenclature of Enterobacteriaceae" which is the basis for this request for an Opinion, the following summary was given:

Tribes and genera are biochemically defined subdivisions of the family Enterobacteriaceae, while species are serologically defined subdivisions of the genera, they are according to P. Bruce White 'elementary species par excellence.'

To reach an international agreement, it is necessary to accept the above principles and to abandon the conception of the species as a biochemically defined subdivision of the genus.

According to the recommendation of P. Bruce White, the designations genus for the whole Salmonella group and species for the serotypes were accepted by the Salmonella Subcommittee in the first publication on "The genus Salmonella Lignières, 1900," published in 1934. According to this proposal, the Nomenclature Committee in 1936 "approved the definition of the genus Salmonella Lignières as set out in the report and accepted the type-species as Salmonella choleraesuis (Smith)."

According to Principle 1 of the Bacteriological Code "the essential points in nomenclature are (1) to aim at fixity of names; (2) to avoid or to reject the use of forms and names which may cause error or ambiguity or throw science into confusion."

¹From Statens Seruminstitut, Copenhagen (Director: J. Ørskov, M.D.)

It is evident that there will be no confusion if we continue to call the Salmonella group a genus and the serotypes species. On the other side, if the taxonomic species is not established at the level of the elementary species, i.e., of the sero-types, but on a higher level, e.g., the genus level, confusion would be the result as all accepted names should be changed.

If the genus Salmonella would be regarded as species of genus Enterobacter, Salmonella typhi should be called Enterobacter salmonellae var. typhi.

If the serological subgroups A, B, C, D etc. are regarded as species, the name of the species corresponding to O group B would be S. paratyphi B, but S. typhi murium should be called S. paratyphi B var. typhi murium.

These examples will be sufficient to demonstrate the absurdity of such a nomenclature. It is wrong to regard some serotypes as species and others which are on the same level as subspecific entities. The established serotypes are large groups which consist of many fermentative types and phage-types. Therefore, these fermentative types and phage-types are subspecific entities, while the serotypes are species.

What is valid for the genus Salmonella is valid for all the other genera of Enterobacteriaceae in which the serotypes should be regarded as species.

SUMMARY

The Judicial Commission is requested to give an Opinion on the following proposals:

1. The species of Enterobacteriaceae are the established serotypes.
2. The genera are groups of related species.

REFERENCES

- Kauffmann, F. 1959. Internatl. Bull. Bact. Nomen. and Tax. 9:
Salmonella Subcommittee. 1934. Jour. Hyg. 34:333.
White, P. Bruce. 1937. Reports of Proc. Second Internatl. Cong. Microbiol. p. 547 and Zbl. Bakt. II, 96:145.