STAPHYLOCOCCUS AUREUS VERSUS
STAPHYLOCOCCUS PYOGENES

S. T. Cowan

National Collection of Type Cultures
London, England

Dr. Breed (1) has presented a strong case for the use of Staphylococcus pyogenes as the specific name of the type of Staphylococcus Rosenbach, and has asked the Judicial Commission not only to accept Staphylococcus pyogenes as the name for the type but also to waive the Code's requirement that the first variety of S. pyogenes should be S. pyogenes var. pyogenes. Dr. Breed would create three varieties based presumably on differences in pigmentation. Nearly all workers except the Winslows have rejected pigmentation as a basis for classifying staphylococci and those who are more familiar with these organisms know that the variety aureus is so unstable that, even when freshly isolated, it continually throws a high proportion of so-called albus variants. It would indeed be poor systematics to have a variety which was continually changing to another variety. The third, or variety citreus is rather different; my experience of coagulase-positive staphylococci which produce a lemon-yellow pigment is that they are much more stable than the gold-pigmented strains. But pigmentation is so unsatisfactory for the classification of staphylococci that Staphylococcus aureus is defined by nearly all recent workers on the basis of the coagulase test, and pigmentation is ignored.

The binomial Staphylococcus pyogenes has been attributed to Rosenbach, who never used it, and in fact Dr. Breed tells us on page 39 (1) that Passet was the first author to use Staphylococcus pyogenes "without an attached varietal name". Consequently, if in the next edition of the Bergey Manual the name Staphylococcus pyogenes is used, it should be attributed to Passet and not to Rosenbach.

Locke wrote in the seventeenth century that "genus and species of things (for those Latin terms signify to me no more than the English word sort)" and even today to most people the word "species" has the meaning of sort, so that no difference is made to the sense of Rosenbach's phrase by

interpreting the German word *Art* as "sort" instead of "species". There is no consensus of opinion on what constitutes a bacterial species, and it is most unlikely that Rosenbach gave any thought to whether he was dealing with sorts, species, or varieties. What is important is that our interpretation of his writings should be in conformity with the Rules of the Bacteriological Code.

Staphylococcus aureus was correctly used by Rosenbach in his book published in 1884, and no amount of discussion can get around that fact. Staphylococcus pyogenes is a later synonym, and can only be made the correct name by action of the Judicial Commission.

Some workers believe that Staphylococcus pyogenes has been used in the literature more than Staphylococcus aureus. In the absence of a detailed list of all papers using binomials for staphylococci it is a matter of opinion which binomial has been most used; personally I think that the popularity of Staphylococcus pyogenes has been greater in biochemical than in bacteriological journals. But popularity has no place in bacteriological nomenclature and Rule 23 is quite firm in its prohibition of a change of a validly published epithet to one that is "better known".

It is now time that the Judicial Commission should be asked to give an Opinion on the proposal by Gibson (2) and the amendments made by others (1,3). The facts and various personal interpretations have already been put forward; an official Opinion will settle which epithet is to be used by those who observe the Rules of the Bacteriological Code and the Opinions issued by the Judicial Commission.

REFERENCES

1. Breed, R.S. Staphylococcus pyogenes Rosenbach. Internatl. Bull. Bact. Nomen. and Taxon. 6:35-42. 1956.
2. Gibson, T. The status of the generic names Micrococcus and Staphylococcus and of the species name Staphylococcus aureus. Internatl. Bull. Bact. Nomen. and Taxon. 3:129. 1953.
3. Cowan, S.T., C. Shaw, and R.E.O. Williams. Type strain for Staphylococcus aureus Rosenbach. Jour. Gen. Microbiol. 10:174. 1954.