AGENDA FOR ROUND TABLE
EVALUATION OF CRITERIA FOR TAXONOMY*

D. Gottlieb

Department of Plant Pathology,
Urbana, Illinois, U.S.A.

A. Difficulty with many of the current procedures

1. A large number of criteria have been used but were carried on in a different manner by investigators over the past years.
2. Difficulty of reproducing some media.
3. Limits for criteria are not sharp enough. Therefore, interpretation of the test varies.
4. Absence of many type cultures or neotypes.
5. Changes in type cultures.
6. Variability of cultures.
 - a. History of handling
 - b. Genetic variability
 - c. Cultural variability
7. No uniformity among investigators for types and numbers of differences in creating new species (Lumpers vs. Splitters)

B. Evaluation of criteria

1. Standards for criteria

Are they sufficiently clear so that the results can be interpreted uniformly by investigators in laboratories all over the world?

Are the constituents of the media widely available?

Can the tests be standardized?

Are the reactions stable enough so that they do not change with slight variations in environmental and cultural conditions or variations of the micro-organism?

2. Discussions of criteria

Morphological characteristics

Colony

Mycelia

Sporophore structure

Method of spore formation

Spore morphology

Color characteristics

Soluble pigments

Color of mycelium

Spore and aerial mycelium

Growth response to temperature

Metabolic characteristics

Hydrogen sulfide production

Reduction of nitrates

Gelatin liquefaction

Milk peptonization

Carbohydrate utilization

Nitrogen utilization

Production of antibiotics

Sensitivity to antibiotics

Serology

Phage specificity

C. Speciation

D. Nomenclature

*Presented at Round Table Conference on Streptomyces, August 4-5, 1958, Stockholm, Sweden, 7th. International Congress of Microbiology.