Letter to the Editor

***“Streptococcus milleri”* Strains Exhibit Not Gliding Motility but Sliding**

In the April 1995 issue of this journal, a paper entitled ‘*“Streptococcus milleri”* Strains Displaying a Gliding Type of Motility’ was published (1). The alleged motility was expressed as spreading growth on certain types of agar media.

Many years ago, I published a paper in which I described six different kinds of bacterial surface translocation manifested as spreading zones on agar surfaces (2). Each kind was characterized by the micromorphological pattern of the spreading zone, including the degree of cell organization, the manner of cell movement, and the mechanism of movement, whether known or unknown.

Thirty photographs showed the appearance of the different kinds of spreading as seen on culture plates as well as the peripheral part of the spreading zone as seen under the microscope. The six kinds of spreading are swimming, swarming, gliding, twitching, sliding, and darting. Agar plate microscopy is essential for their differentiation (2).

Gliding motility has a significant standing in taxonomy, which Bergman et al. (1) seem to realize as they compare their strains of streptococci with members of the order *Cytophagales*. According to my own experience, spreading by a *Streptococcus* sp. must be of either the twitching (2, 3) or the sliding kind (2).

Examination in my laboratory of the five strains described by Bergman et al. not surprisingly showed that four of them—

described as being motile, which they are not—gave rise to spreading zones by means of sliding, which was originally defined by me as “a kind of surface translocation produced by the expansive forces in a growing culture in combination with special surface properties of the cells resulting in reduced friction between cell and substrate. The micromorphological pattern is that of a uniform sheet of closely packed cells in a single layer. The sheet moves slowly as a unit.”

Sliding exhibited by a *Streptococcus* sp. is illustrated in Fig. 25 and 26 in my paper in *Bacteriological Reviews* (2).

REFERENCES

1. Bergman, S., M. Selig, M. D. Collins, J. A. E. Farrow, E. J. Baron, G. R. Dickersin, and K. L. Ruoff. 1995. “*Streptococcus milleri*” strains displaying a gliding type of motility. *Int. J. Syst. Bacteriol.* **45**:235–239.
2. Henrichsen, J. 1972. Bacterial surface translocation: a survey and a classification. *Bacteriol. Rev.* **36**:478–503.
3. Henrichsen, J. 1983. Twitching motility. *Annu. Rev. Microbiol.* **37**:81–93.

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