BACTERIUM ANITRATUM
TRANSFERRED TO THE GENUS CYTOPHAGA*

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SUMMARY: Bacterium anitratum Schaub and Hauber is transferred to the genus Cytophaga (Myxobacteriales, Schizomycetes) as Cytophaga anitrata (Schaub and Hauber) comb. nov. The transfer is based upon cellular morphology, the characteristic gliding or creeping motility of the single cells and the absence of microcysts. The nearly related Moraxella lwoffi Audureau is likewise transferred to Cytophaga as Cytophaga lwoffi (Audureau) comb. nov. for the same reasons.

In recent years several papers have been published on Bacterium anitratum Schaub and Hauber 1948 and different proposal made for its classification. It has been placed in at least five different bacterial families but none of the taxonomic proposals made so far have been entirely satisfactory. A new proposal is advanced here based on the observation that this microorganism exhibits the special kind of motility found in myxobacteria and described as gliding or creeping.

Gliding motility has been demonstrated in 10 out of 15 strains studied in detail, including an authentic B5W strain from Stuart. The observations were performed on cultures growing on thin agar plates poor in nutrients by aid of a phase-contrast microscope.

The motion is slow, hesitating and intermittent as in other myxobacteria and the phenomenon is an erratic one. As yet it has not been possible to find conditions which will regularly allow of its demonstration. This is inconvenient in diagnostic work but does not alter the significance of the phenomenon in taxonomic considerations.

Higher myxobacteria form resting cells called microcysts.

*Summary of a paper read at the 13th Scandinavian Congress for pathology and microbiology at Åbo, Finland, June 1961.
which are sometimes carried in specialized fruiting bodies. In *Bacterium anitratum* such structures have not been ob-
served and therefore—according to Stanier's classification
of the order Myxobacterales in Bergey's Manual, 7th Ed. —
the organism should be assigned to the genus *Cytophaga*,
which accommodates all single celled bacteria which exhibit
sliding motility but do not form fruiting bodies or microcysts.

It is consequently proposed that *Bacterium anitratum* be
transferred to the order Myxobacterales, family Cyto-
phagaceae, and placed in the genus *Cytophaga* and designated
as *Cytophaga anitrata* (Schaub and Hauber) comb. nov.

Besides *Bacterium anitratum* a few strains of the very
similar organism, originally described as *Moraxella lwoffi*
Audureau 1940, have also been examined and found to pos-
sess the same ability for sliding motility as *Bacterium ani-
tratum*. At present it is not clear whether both of these
closely related organisms deserve specific rank, but if it is
eventually recommended to establish two species, *Moraxella*
*lwoffi* Audureau would become *Cytophaga lwoffi* comb. nov.

REFERENCES

Schaub, I. G. and F. D. Hauber. 1948. A biochemical and
serological study of a group of identical unidentifiable
Gram-negative bacilli from human sources. Jour. Bact. 56:
379-385.