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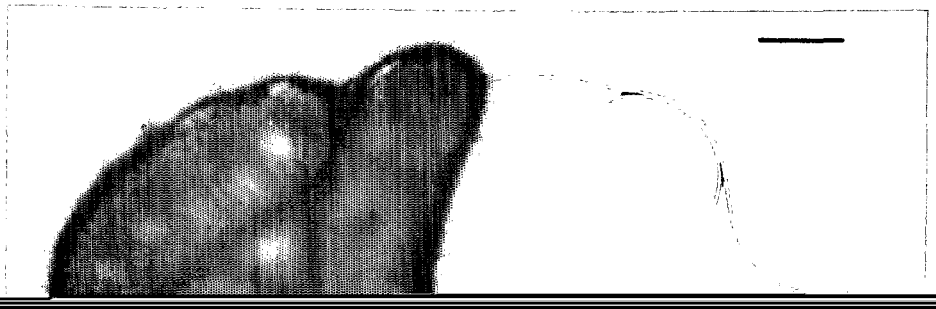

trate reductase A is demonstrable in anaerobic culture with NO_3^-; nitrate reductase B is demonstrable in aerobic culture grown in the absence of NO_3^- (6). Extracts of cells cultivated anaerobically in the presence of NO_3^-, NO_2^-, or N_2O yield extremely little or no tetramethyl-*p*-phenylenediamine-nitrite reductase activity. Tetrathionate reductase is produced in anaerobiosis in a medium containing $S_4O_6^{2-}$.

Growth and denitrification of N_2O are obtained in complex media with yeast extract or in minimal media containing acetate, butyrate, succinate, DL-lactate, or L-malate. The dinitrogen produced in stoichiometric amounts from the reduction of N_2O in the presence of succinate by cell suspensions has been measured and identified by gas chromatography (3).

DNA base composition. The deoxyribonucleic acid (DNA) has a buoyant density in CsCl of 1.721 g/cm^3, indicating a base composition of 62.2 mol% guanine plus cytosine (G+C) (5, 8).

Taxonomy. The bacterium clearly is a member of the genus *Pseudomonas*. The species known to denitrify are *P. aeruginosa*, *P. fluorescens*, *P. stutzeri* (including *P. stanieri*), *P. mendocina*, *P. pseudomallei*, *P. mallei*, *P. solanacearum*, *P. caryophylli*, and *P. pickettii*. All of these are nutritionally omnivorous and assimilate a broad range of carbohydrates and amino acids (2, 9). Physiologically, the bacterium we have encountered and described bears greatest resemblance to *P. lemoignei*. The latter assimilates only acetate, butyrate, valerate, pyruvate, succinate, and DL-3-hydroxybutyrate, and accumulates poly-β-hydroxybutyrate as a reserve substance. It also is characterized by equally small colonies. However, *P. lemoignei* differs in growing at 41°C, in producing colonies that are very coherent and adherent to agar, in not assimilating DL-lactate, propionate, L-malate, and α-[illegible] in failing to denitrify, and in being

Is this organism a new species or is it a denitrifying variety of *P. lemoignei*? Only by studying new strains can we determine its taxonomic position. Unfortunately there are serious difficulties in isolating such strains because the culture conditions used during enrichment are not selective. They allow the growth of other denitrifying bacteria such as *P. stutzeri* and *Alcaligenes denitrificans*. It should be remembered that only one strain of *P. lemoignei* has been isolated and described (1).

We have deposited the holotype in the collection of the Pasteur Institute (number CIP 301-75).

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REPRINT REQUESTS

Address reprint requests to: Dr. Francis Pichinoty, Laboratoire de Biochimie Végétale, UER Scientifique de Luminy, 70 route Léon Lachamp, 13288 Marseille Cédex 2, France.

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