COMAMONAS TERRIGENA COMB. NOV.
WITH PROPOSAL OF A NEOTYPE
AND REQUEST FOR AN OPINION¹

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SUMMARY: Comamonas terrigena (Günther 1894) comb. nov. is proposed to replace the illegitimate name Comamonas percolans (Mudd and Warren 1923) Davis and Park 1962. The American Type Culture Collection strain 8461 (NCTC 1937 and NCIB 8193) is the proposed neotype culture of Comamonas terrigena, a description of which is presented.

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Davis and Park (1962) proposed the new generic name Comamonas to replace the illegitimate bacterial generic name Lophomonas. Comamonas percolans (Mudd and Warren 1923) Davis and Park 1962 was designated the type species of the genus; and ATCC strain 8461 was designated by Davis and Park (1962) as the type culture of Comamonas percolans. Vibrio percolans Mudd and Warren, 1923 (ATCC 8461) is an objective synonym of Lophomonas alcaligenes Galarneault and Leifson, 1956 (ATCC 8461). Only one species has been recognized in the genus Comamonas.

Günther (1894) isolated from surface soil an organism which he described and named Vibrio terrigenus. He described it to be identical with the cholera organism in respect to size and shape. It was motile with a tuft of polar flagella at both ends. Gelatin was not liquefied. Good growth appeared at room temperature. Growth was better at 27-28°C than at 37°C. The nitroso-indole reaction of this strict

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aerobe was negative. It did not ferment sugars. Günther's isolate does not seem to be available. However, from Günther's description of Vibrio terrigenus, it appears that Comamonas percolans is a later subjective synonym of Vibrio terrigenus. Therefore, Comamonas terrigena (Günther) comb. nov. is designated to replace Comamonas percolans. Although photomicrographs showing flagella do not accompany Günther's description of Vibrio terrigenus, it appears reasonable to credit Günther with the first isolation of the species.

The American Type Culture Collection strain 8461 (NCTC 1937 and NCIB 8193) is the proposed neotype culture of Comamonas terrigena. This strain was isolated in 1921 from hay infusion (Mudd and Warren, 1923) and it is here designated as the type culture of Lophomonas alcaligenes.

Using the procedures described and employed by Hugh and Ryschenkow (1961), the proposed neotype culture (ATCC 8461) of Comamonas terrigena has the following attributes: Gram-negative asporogenous rod-shaped organism. Cells generally straight; an occasional cell with only a slight curvature. Soma size $0.4 \mu \times 2-3 \mu$. Polar tuft of flagella with a wavelength of 3.1μ and an amplitude of 1.01μ (Galarneault and Leifson, 1956). This distinctive lophotrichous flagellation of ATCC strain 8461 is illustrated in the photomicrograph (Fig. 14) published by Hugh and Leifson (1953). Dense turbidity in neutral peptone broth in 18-24 hours at temperatures between 22 and 37°C. Alkali accumulating in OF base medium (Hugh and Leifson, 1952 - Difco 0688) containing the following carbon compounds: adonitol, arabinose, cellobiose, dextrose, dulcitol, ethanol, fructose, galactose, inositol, inulin, lactose, maltose, mannose, mannitol, melezitose, melibiose, raffinose, rhamnose, d-ribose, salicin, sorbitol, sucrose, trehalose, and xylose. The indole, methyl red, Voges-Proskauer, and citrate (both Simmons' and Christensen's) tests negative. Charcoal gelatin, hydrogen sulfide (Kligler's), 2-ketogluconate, lysine decarboxylase (ninhhydrin), malonate, and nitrate reduction to nitrogen gas tests negative. Phenylalanine deaminase, potassium cyanide, and Moller's lysine, arginine, and ornithine tests negative. Water- and chloroform-soluble pigments were not observed by the methods employed; nitrate was reduced to nitrite (Mudd and Warren, 1923, reported that nitrates were not reduced to nitrites); Christensen's urea, catalase, and

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cytochrome oxidase tests positive. These attributes are in agreement with those reported for Vibrio percolans (ATCC 8461) by Mudd and Warren (1923), Lophomonas alcaligenes (ATCC 8461) by Galarneault and Leifson (1956), and for Comamonas percolans (ATCC 8461) by Davis and Park (1962).

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