Brachybacterium netajii sp. nov.: A halotolerant bacterium capable of p-Nitrophenol degradation, isolated from the Ganges river, West Bengal, India

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Table 1: Complete list of names proposed in the current register list.

Proposed Taxon	Etymology	Description	Parent Taxon	Type	Registry URL
Species *Brachybacterium netajii*	[ne.ta'ji.i] **N.L. gen. n.** *netajii*, of Netaji, the Hindi/Bengali honorific title (meaning "respected leader") by which Subhas Chandra Bose, Indian nationalist (1897–1945), is widely known	Cells are Gram-positive and non-motile. Colonies formed on PNP agar are yellowish-white and circular. Growth occurs over a temperature range of 20–40°C, with optimal growth observed at 30 °C. The strain tolerates up to 9% NaCl and grows well within a pH range of 5.8–8.0. The strain is oxidase-negative but catalase-positive and exhibits starch-hydrolyzing activity. Positive reactions was observed for β-glucosidase activity. The organism is capable of utilizing sucrose, D-xylose, D-glucose, D-mannose, L-arabinose, D-melibiose, D-maltose, D-trehalose, D-cellobiose, D-sorbitol, and D-mannitol as carbon sources. Positive reactions are recorded for adenosine assimilation, L-lactate utilization, and citrulline metabolism. In contrast, the strain tested negative for Ala-Phe-Pro arylamidase, glycine arylamidase, pyrrolidonyl arylamidase, proline arylamidase, β-alanine arylamidase, and Gly-Gly arylamidase. H_2S production was not detected. Furthermore, the strain lacked enzymatic activities associated with *β*-N-acetylglucosaminidase, lipase, phosphatase, β-glucuronidase, *α*-galactosidase, *α*-glucosidase, *β*-galactosidase, and *β*-xylosidase. The strain failed to utilize D-tagatose, 5-keto-D-gluconate, succinate, palatinose, N-acetyl-D-glucosamine, L-malate, L-arabinitol, and L-lactate as substrates. The cellular fatty acid profile is dominated by C15:0 Anteiso (24.61%) as the most abundant, followed by $C_{11:0}$ (21.06%), iso-$C_{16:0}$ (11.89%), $C_{16:0}$ (11.58%), and anteiso-$C_{17:0}$ (11.24%). The predominant respiratory quinone is menaquinone MK-7, consistent with members of the genus *Brachybacterium*. The reference strain, designated DNPG3 (= MTCC 13125), was isolated from the River Ganges, W.B, India.	*Brachybacterium*	NCBI Assembly: GCA_054114245.1 Ts	seqco.de/i:56045