

Paracoccus rhizosphaerae sp. nov., isolated from the rhizosphere of the plant *Crossostephium chinense* (L.) Makino (Seremban).

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Abstract

A Gram-negative, coccoid-shaped bacterium, strain CC-CCM15-8(T), was isolated from a rhizosphere soil sample of the plant *Crossostephium chinense* (L.) Makino (Seremban) from Budai Township, Chiayi County, Taiwan. 16S rRNA gene sequence analysis clearly allocated strain CC-CCM15-8(T) to the *Paracoccus* cluster, showing highest similarities to the type strains of '*Paracoccus beibuensis*' (98.8%), *Paracoccus homiensis* (97.6%), *Paracoccus aestuarii* (97.7%) and *Paracoccus zeaxanthinifaciens* (97.7%). The fatty acid profile, comprising C(18:1) ω 7c as the major component and C(10:0) 3-OH as the characteristic hydroxylated fatty acid, supported the placement of strain CC-CCM15-8(T) within the genus *Paracoccus*. The polyamine pattern consisted of putrescine and spermidine as major components. Ubiquinone Q-10 was the major quinone type (95%); ubiquinone Q-9 was also detected (5%). The complex polar lipid profile consisted of diphosphatidylglycerol, phosphatidylethanolamine, phosphatidylglycerol, phosphatidylcholine, and unidentified phospholipids, lipids and glycolipids. Levels of DNA-DNA

relatedness between strain CC-CCM15-8(T) and 'P. beibuensis' LMG 25871(T), P. aestuarii DSM 19484(T), P. zeaxanthinifaciens LMG 21993(T) and P. homiensis KACC 11518(T) were 24.9% (34.8%, reciprocal analysis), 15.7% (17.5%), 17.7% (23.4%) and 16.0% (25.4%), respectively. Physiological and biochemical test results allowed the phenotypic differentiation of strain CC-CCM15-8(T) from its closest relatives in the genus Paracoccus. Based on the data presented, it is concluded that strain CC-CCM15-8(T) represents a novel species of the genus Paracoccus, for which the name Paracoccus rhizosphaerae sp. nov. is proposed. The type strain is CC-CCM15-8(T) (=LMG 26205(T)=CCM 7904(T)).

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