

***Streptomyces smaragdinus* sp. nov. isolated from the gut of fungus growing-termite *Macrotermes natalensis*.**

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Abstract

The taxonomic position of a novel aerobic, Gram-positive actinobacteria, designated strain RB5^T, was determined using a polyphasic approach. The strain, isolated from the gut of the fungus-farming termite *Macrotermes natalensis*, showed morphological, physiological and chemotaxonomic properties typical of the genus *Streptomyces*. Based on 16S rRNA gene sequence analysis, the closest phylogenetic neighbour of RB5^T was *Streptomyces polyrhachis* DSM 42102^T (98.87 %). DNA–DNA hybridization experiments between strain RB5^T and *S. polyrhachis* DSM 42102^T resulted in a value of 27.4 % (26.8 %). The cell wall of strain RB5^T contained ll-diaminopimelic acid as the diagnostic amino acid. Mycolic acids and diagnostic sugars in whole-cell hydrolysates were not detected. The strain produced the following major phospholipids: diphosphatidylglycerol, phosphatidylethanolamine, phosphatidylinositol,

phosphatidylinositol-mannoside and phosphatidylserine. The menaquinone profile showed hexa- and octahydrogenated menaquinones containing nine isoprene units [MK-9(H6) and MK-9(H8)]. The strain exhibited a fatty acid profile containing the following major fatty acids: 12-methyltridecanoic acid (iso-C14 : 0) 12-methyltetradecanoic acid (anteiso-C15 : 0), 13-methyltetradecanoic acid (iso-C15 : 0) and 14-methylpentadecanoic acid (iso-C16 : 0). Here, we propose a novel species of the genus *Streptomyces* – *Streptomyces smaragdinus* with the type strain RB5^T (=VKM Ac-2839^T=NRRL B65539^T).

Involved units

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