

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

Schwitalla JW, Benndorf R, Martin K, Vollmers J, Kaster AK, de Beer ZW, Poulsen M, Beemelmanns C (2020) *Steptomyces smaragdinus* sp. nov. isolated from the gut of fungus growing-termite *Macrotermes natalensis*. *Int J Syst Evol Microbiol* 70(11), 5806-5811.

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## **Abstract**

The taxonomic position of a novel aerobic, Gram-positive actinobacteria, designated strain RB5<sup>T</sup>, 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<sup>T</sup> was *Streptomyces polyrhachis* DSM 42102<sup>T</sup> (98.87 %). DNA-DNA hybridization experiments between strain RB5<sup>T</sup> and *S. polyrhachis* DSM 42102<sup>T</sup> resulted in a value of 27.4 % (26.8 %). The cell wall of strain RB5<sup>T</sup> contained D,L-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<sup>T</sup> (=VKM Ac-2839<sup>T</sup>=NRRL B65539<sup>T</sup>).

## Involved units

[Chemical Biology of Microbe-Host Interactions](#) [Christine Beemelmanns](#) [Read more](#)

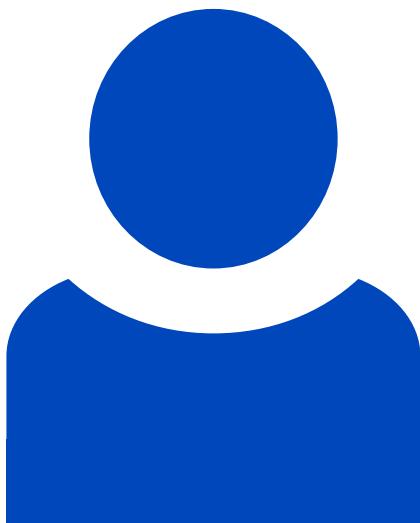
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## **Topics**

[Secondary metabolites from insect-associated microbes](#)

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