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Molecular Systematics of the Mycolic Acid-Containing Actinomycetes

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Almost complete 16S rDNA sequences of the type strains of all of the validly described species of the genera *Nocardia* and *Tsukamurella* were determined following isolation and cloning of the amplified genes. The resultant nucleotide sequences were aligned with those of representatives of the genera *Corynebacterium*, *Gordona*, *Mycobacterium*, *Rhodococcus* and *Turicella* and phylogenetic trees inferred by using the neighbor-joining, least squares, maximum likelihood and maximum parsimony methods. The mycolic acid-containing actinomycetes formed a monophyletic line within the evolutionary radiation encompassing actinomycetes. The "mycolic acid" lineage was divided into two clades which were equated with the families *Corynebacteriaceae* and *Mycobacteriaceae*. It was clear from the 16S rDNA sequence data that *Nocardia pinensis* was misclassified in the genus *Nocardia* and that *Tsukamurella wratislaviensis* belonged to the genus *Rhodococcus*. The genus *Nocardia* formed a distinct clade that was clearly associated with the genus *Rhodococcus*.