

## Taxonomic History of Actinomycete Strains Bearing the Epithet *rectivirgula*: Correct Citation of Authorities

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There have been errors in recent publications in the citation of authorities for actinomycete strains bearing the specific epithet *rectivirgula*. The correct citations are *Saccharopolyspora rectivirgula* (Krasil'nikov and Agre 1964) Korn-Wendisch, Kempf, Grund, Kroppenstedt, and Kutzner 1989, *Faenia rectivirgula* (Krasil'nikov and Agre 1964) Kurup and Agre 1983, and *Micropolyspora rectivirgula* (Krasil'nikov and Agre 1964) Prauser and Momirova 1970.

Controversy has long surrounded the thermophilic actinomycetes that are currently referred to by the epithet *rectivirgula*, and these organisms have been placed in several genera and species over the last 25 years or so. The epithet was first used by Krasil'nikov and Agre (9) for organisms which they isolated from soil and described as *Thermopolyspora rectivirgula*. At about the same time, Corbaz et al. (2) isolated similar organisms from moldy hay, which they mistakenly identified as "*Thermopolyspora polyspora*" and which were a major source of farmer's lung hay antigen (16). In 1964, Krasil'nikov and colleagues questioned the distinction between the genera *Thermopolyspora* and *Micropolyspora* but still described their isolate as a *Thermopolyspora* species and continued to use this genus name (6, 8), while in 1966, Lechevalier et al. (13) listed an isolate of *Thermopolyspora rectivirgula* as *Micropolyspora rectivirgula* (species with wall chemotype IV) and listed isolates of "*Thermopolyspora polyspora*" as *Micropolyspora* species. However, these authors did not formally propose transfer of organisms from one genus to the other. It was left to Cross et al. (3) to describe the misidentified organism "*Thermopolyspora polyspora*" as the new species *Micropolyspora faeni*, while Prauser and Momirova (17) transferred *Thermopolyspora rectivirgula* to the genus *Micropolyspora* with the following statement: "*Micropolyspora rectivirgula* (Krasil'nikov und Agre) *comb. nov.* wird als korrekter Name für diese Aktinomyceten vorgeschlagen." The two species were included on the Approved Lists of Bacterial Names (18) as *Micropolyspora faeni* Cross, Maciver, and Lacey 1968 and *Micropolyspora rectivirgula* (Krasil'nikov and Agre 1964) Prauser and Momirova 1970.

The synonymy of *Micropolyspora rectivirgula* and *Micropolyspora faeni* became apparent when cultures of *Micropolyspora rectivirgula* became freely available (1, 10, 17). At the same time, the type species of the genus *Micropolyspora*, *Micropolyspora brevicatena* Lechevalier, Solotorovsky, and McDurmont 1961, was transferred to the genus *Nocardia* (4). As a consequence, Kurup and Agre (11) proposed the transfer of *Micropolyspora rectivirgula* to the new genus *Faenia*, as *Faenia rectivirgula* (Krasil'nikov and Agre 1964) Lechevalier, Lechevalier, and Becker 1966, while McCarthy et al. (15) and Lacey et al. (12) argued for the conservation of the genus *Micropolyspora*, with *Micropolyspora faeni* Cross, Maciver, and Lacey 1968 as the type species. The Judicial Commission ruled in favor of *Faenia rectivirgula* (19), but the transfer of *Faenia rectivirgula* to the genus *Saccharopolyspora* has recently been proposed by Korn-Wendisch et al. (7). In doing this, these

authors erroneously gave Kurup and Agre 1983 as the authority for the epithet *rectivirgula*.

Thus, there is much confusion surrounding the authorities for species bearing the epithet *rectivirgula*. While Kurup and Agre (11) are correctly cited as authorities for the genus *Faenia*, the specific epithet *rectivirgula* long predates the publication of these authors. There is perhaps more justification for using Lechevalier, Lechevalier, and Becker 1966 (13) as the authority for the transfer of *Thermopolyspora rectivirgula* to the genus *Micropolyspora*, although formal transfer of *Thermopolyspora rectivirgula* strains listed as *Micropolyspora rectivirgula* was never proposed. On the other hand, Prauser and Momirova (17) proposed the new combination *Micropolyspora rectivirgula* for actinomycetes bearing the epithets *rectivirgula* and *faeni*. However, this was not supported by any formal description, there is no direct reference to the original description, and the work of Prauser and Momirova was not based on the type strain, although another isolate cited by Krasil'nikov and Agre in their original description was used. Reference to neither Lechevalier, Lechevalier, and Becker nor Prauser and Momirova as authorities for the transfer is entirely satisfactory but, in the interest of nomenclatural stability, it is probably better to accept the authorities given on the Approved Lists (18) and cite Prauser and Momirova as the correct authorities for the transfer of *Thermopolyspora rectivirgula* to the genus *Micropolyspora*. The correct citations are given below:

*Saccharopolyspora rectivirgula* (Krasil'nikov and Agre 1964) Korn-Wendisch, Kempf, Grund, Kroppenstedt, and Kutzner 1989 = *Faenia rectivirgula* (Krasil'nikov and Agre 1964) Kurup and Agre 1983 = *Micropolyspora rectivirgula* (Krasil'nikov and Agre 1964) Prauser and Momirova 1970 = *Thermopolyspora rectivirgula* Krasil'nikov and Agre 1964. Synonyms: *Micropolyspora faeni* Cross, Maciver, and Lacey 1968 and "*Thermopolyspora polyspora*" Corbaz, Gregory, and Lacey 1963 non Henssen 1957.

### LITERATURE CITED

1. Arden-Jones, M. P., A. J. McCarthy, and T. Cross. 1979. Taxonomic and serological studies on *Micropolyspora faeni* and *Micropolyspora* strains from soil bearing the specific epithet *rectivirgula*. J. Gen. Microbiol. 115:343-354.
2. Corbaz, R., P. H. Gregory, and M. E. Lacey. 1963. Thermophilic and mesophilic actinomycetes in mouldy hay. J. Gen. Microbiol. 32:449-455.
3. Cross, T., A. Maciver, and J. Lacey. 1968. The thermophilic actinomycetes in mouldy hay: *Micropolyspora faeni* sp. nov. J.

- Gen. Microbiol. 50:351-359.
4. Goodfellow, M., and T. Pirouz. 1982. Numerical classification of sporoactinomycetes containing *meso*-diaminopimelic acid in the cell wall. J. Gen. Microbiol. 128:503-527.
  5. Henssen, A. 1957. Contributions to the morphology and systematics of the thermophilic actinomycetes. Arch. Mikrobiol. 26: 373-414. (In German.)
  6. Kalakoutskii, L. V., N. S. Agre, and N. A. Krasil'nikov. 1968. A comparative study of some oligosporic actinomycetes. Hind. Antibiot. Bull. 10:254-268.
  7. Korn-Wendisch, F., A. Kempf, E. Grund, R. M. Kroppenstedt, and H. J. Kutzner. 1989. Transfer of *Faenia rectivirgula* Kurup and Agre 1983 to the genus *Saccharopolyspora* Lacey and Goodfellow 1975, elevation of *Saccharopolyspora hirsuta* subsp. *taberi* Labeda 1987 to species level, and emended description of the genus *Saccharopolyspora*. Int. J. Syst. Bacteriol. 39:430-441.
  8. Krasil'nikov, N. A. 1964. Systematic position of ray fungi among the lower organisms. Hind. Antibiot. Bull. 7:1-17.
  9. Krasil'nikov, N. A., and N. S. Agre. 1964. On two new species of *Thermopolyspora*. Hind. Antibiot. Bull. 6:97-107.
  10. Kurup, V. P. 1981. Taxonomic study of some members of *Micropolyspora* and *Saccharomonospora*. Microbiologica (Bologna) 4:249-259.
  11. Kurup, V. P., and N. S. Agre. 1983. Transfer of *Micropolyspora rectivirgula* (Krasilnikov and Agre, 1964) Lechevalier, Lechevalier, and Becker, 1966 to *Faenia* gen. nov. Int. J. Syst. Bacteriol. 33:663-665.
  12. Lacey, J., A. J. McCarthy, M. Goodfellow, and T. Cross. 1984. Conservation of the name *Micropolyspora* Lechevalier, Solotorovsky, and McDurmont over *Faenia* Kurup and Agre and designation of *Micropolyspora faeni* Cross, Maciver, and Lacey as the type species of the genus. Amended request for an opinion. Int. J. Syst. Bacteriol. 34:505-507.
  13. Lechevalier, H. A., M. P. Lechevalier, and B. Becker. 1966. Comparison of the chemical composition of cell walls of nocardiae with that of other aerobic actinomycetes. Int. J. Syst. Bacteriol. 16:151-160.
  14. Lechevalier, H. A., M. Solotorovsky, and C. I. McDurmont. 1961. A new genus of the Actinomycetales: *Micropolyspora* gen. nov. J. Gen. Microbiol. 26:11-18.
  15. McCarthy, A. J., T. Cross, J. Lacey, and M. Goodfellow. 1983. Conservation of the name *Micropolyspora* Lechevalier, Solotorovsky, and McDurmont and designation of *Micropolyspora faeni* Cross, Maciver, and Lacey as the type species of the genus. Request for an opinion. Int. J. Syst. Bacteriol. 33:430-433.
  16. Pepys, J., P. A. Jenkins, P. H. Gregory, G. N. Festenstein, M. E. Lacey, and F. A. Skinner. 1963. Farmer's lung: thermophilic actinomycetes as a source of "farmer's lung hay" antigen. Lancet ii:607-611.
  17. Prauser, H., and S. Momirova. 1970. Phage sensitivity, cell wall composition and taxonomy of a thermophilic actinomycete. Z. Allg. Mikrobiol. 10:219-222.
  18. Skerman, V. B. D., V. McGowan, and P. H. A. Sneath (ed.). 1980. Approved lists of bacterial names. Int. J. Syst. Bacteriol. 30:225-420.
  19. Wayne, L. G. 1986. Actions of the Judicial Commission of the International Committee on Systematic Bacteriology on requests for opinions published in 1983 and 1984. Int. J. Syst. Bacteriol. 36:357-358.