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Current taxonomy of *Penicillium* and *Talaromyces*

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The studies on the taxonomy of *Penicillium* have a long history starting at the start of 1900. Since then the interest to classify the species of *Penicillium* have only increased because the genus has a common worldwide occurrence with a significant economic impact. Until the 1980 the studies primarily used phenotypic characters which complicated the species delimitation because the lack of standardization of methods. Although Kenneth Raper and Charles Thom recommended growth media for the study of *Penicillium* and other mycologists used physiological criteria the classification of the genus remained troublesome. This has changed since the introduction of the polyphasic taxonomy approach which combines phenotypical, physiological, biochemical and molecular characteristics. In the last decade this has resulted that the phylogeny of *Penicillium* has been elucidated with a species concept which has been generally accepted. Phylogenetic studies has clearly indicated that taxa formerly belonged to *Penicillium* subgenus *Biverticillium* have to be separated from *Penicillium* and they are now accommodated in *Talaromyces*. In this presentation the current taxonomic status of both genera will be given with an outlook how the taxonomy of these genera will develop.