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# MICROBIOLOGY

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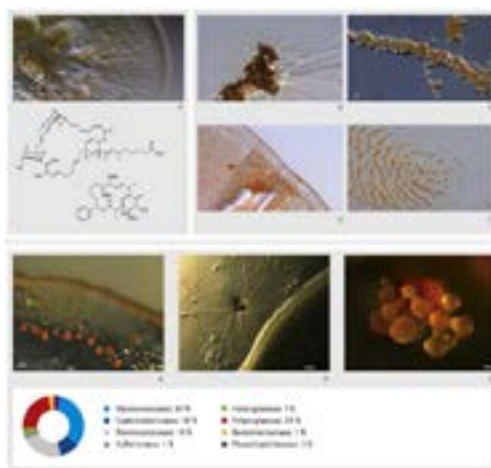


## Joachim Wink

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### Biology of myxobacteria – An underestimated group of antibiotic producing bacteria

The myxobacteria with the order Myxococcales (TCHAN, POCHON and PRÉVOT 1948) belong to the Gram negative Proteobacteria and have first been described in detail by Thaxter in 1892 in the Botanical Gazette. Most known myxobacteria occur in soil and frequently develop on decomposing plant material, the bark of living trees or animal dung. Both in nature and in the laboratory their presence may be detected through the appearance of fruiting bodies. Since the introduction of Epotilon as anticancer therapeutic on the market, the myxobacteria have their place in the group of industrial important bacteria. The biology of myxobacteria is mainly characterized by two features that are gliding on surfaces without any locomotion organelles and the formation of fruiting bodies. Myxobacteria also have a high GC content and very huge genomes with a size of about 10 Mb which correlates with their ability to produce many different secondary metabolites. Until today, the taxonomy of the myxobacteria is basing on the morphological features together with the 16S rRNA sequence, in addition, we have established a number of chemotaxonomic and molecular biological markers, which can be used in myxobacterial taxonomy. A short overview on the history of myxobacteria, the fruiting body formation, its taxonomic classification and additional methods for characterization, as well as, their potential to produce bioactive compounds is given in this talk.



### Biography

Joachim Wink has completed his PhD in 1985 from Frankfurt University. He then went to the pharmaceutical industry and started his career at the Hoechst AG, where he was responsible for the strain collection and specialized in the cultivation and taxonomic characterization of Actinobacteria and Myxobacteria. During the years, he was responsible for the strain library within the pharmaceutical research and a number of screening projects with Hoechst Marion Russel, Aventis and Sanofi. In the year 2005, he did his habilitation at the Carolo Wilhelma University of Braunschweig and in 2012, he went to the Helmholtz Centre for Infection Research in Braunschweig, where he founded the working group of the strain collection with its focus on Myxobacteria. Here, he is now working on the isolation and taxonomic characterization of Myxobacteria and Actinobacteria, as well as, the analysis of their secondary metabolites. He has published more than 50 papers on secondary metabolites and the taxonomy of the producing microorganisms in reputed journals, a number of reviews, as well as, book chapters and more than 35 patents. He is the Editorial Board Member of a number of international journals.

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