Taxonomic studies of the *Penicillium glabrum* complex and the description of a new species *P. subericola*

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Abstract A mycological survey of fungi, present in several stages of the manufacturing of cork discs for champagne stoppers in Portugal, was made. Sixty-nine strains belonging to the *Glabra* series of the genus *Penicillium* were isolated and subsequently grouped according to their partial β-tubulin gene sequences. Six groups with different partial β-tubulin gene sequences were observed, and a selection of isolates of each group was made. These selected isolates and various related ex-type strains were subjected to a taxonomical study using a polyphasic approach. This approach included analysis of macro- and microscopic features, the comparison of extrolite profiles and sequencing a part of the β-tubulin and calmodulin gene. The six β-tubulin types were reduced to three different species. One group of isolates was centred on the ex-type strain of *P. glabrum*, a second group accommodated the type strain of *P. spinulosum* and a third group contained isolates which were unique in their β-tubulin and calmodulin sequences, extrolite profiles and growth characteristics. This group of isolates is described as the new species *Penicillium subericola*. The type strain of *P. subericola* CBS 125096 was isolated from Portuguese raw cork, but additional isolates were found from soil, air and lumen.

Keywords Taxonomy • Phylogeny • Tubulin • Cork