Polyphasic data support the splitting of Aspergillus candidus into two species; proposal of Aspergillus dobrogensis sp. nov. - DTU Orbit (09/01/2019)

Polyphasic data support the splitting of *Aspergillus candidus* into two species; proposal of *Aspergillus dobrogensis* sp. nov. *Aspergillus candidus* is a species frequently isolated from stored grain, food, indoor environments, soil and occasionally also from clinical material. Recent bioprospecting studies highlighted the potential of using *A. candidus* and its relatives in various industrial sectors as a result of their significant production of enzymes and bioactive compounds. A high genetic variability was observed among *A. candidus* isolates originating from various European countries and the USA, that were mostly isolated from indoor environments, caves and clinical material. The *A. candidus sensu lato* isolates were characterized by DNA sequencing of four genetic loci, and agreement between molecular species delimitation results, morphological characters and exometabolite spectra were studied. Classical phylogenetic methods (maximum likelihood, Bayesian inference) and species delimitation methods based on the multispecies coalescent model supported recognition of up to three species in *A. candidus sensu lato*. After evaluation of phenotypic data, a broader species concept was adopted, and only one new species, *Aspergillus dobrogensis*, was proposed. This species is represented by 22 strains originating from seven countries (ex-type strain CCF 4651T =NRRL 52821T =IBT 32697T =CBS 143370T) and its differentiation from *A. candidus* is relevant for bioprospecting studies because these species have different exometabolite profiles. Evaluation of the antifungal susceptibility of section *Candidi* members to six antifungals using the reference EUCAST method showed that all species have low minimum inhibitory concentrations for all tested antifungals. These results suggest applicability of a wide spectrum of antifungal agents for treatment of infections caused by species from section *Candidi*.

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