

# *Aspergillus atacamensis* and *A. salisburgensis*: two new halophilic species from hypersaline/arid habitats with a phialosimplex-like morphology

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Halophilic fungal strains isolated from historical wooden staircase in a salt mine in Austria, and from wall biofilm and soil of a cave in the Coastal Range of the hyperarid Atacama Desert in Chile were characterised and described newly as *Aspergillus salisburgensis* and *Aspergillus atacamensis*.

Morphological characters including solitary phialides producing solitary conidia and conidia in chains and/or heads suggested affinity to *Aspergillus* subgenus *Polypaecilum*. Strains required salt for growth, grew optimally on media with 10–25% NaCl and at 15–28 °C. These values are similar to those observed for *Aspergillus salinarus* comb. nov. (*Phialosimplex salinarum*), while the ex-type strains of *Aspergillus sclerotialis*, *Aspergillus chlamydosporus* and *Aspergillus caninus* (all belonging to *Aspergillus* subgen. *Polypaecilum*) grew optimally at 0–5% NaCl and showed fastest growth at 28–37 °C. Phylogenetic analyses on the basis of rDNA sequences, RAPD-PCR fingerprint patterns, and cellobiohydrolase gene (*cbh-I*) polymorphism clustered the strains into three groups and supported their taxonomic recognition as *A. salinarus*, *A. atacamensis* and *A. salisburgensis*. On the basis of phylogenetic inferences, also *Sagenomella keratitidis* is newly combined as *Aspergillus keratitidis* and inferred as a species of *Aspergillus* subgenus *Polypaecilum*. © 2017, Springer Japan.

*Aspergillus*

Halophilic fungi

Hypersaline environments

Phialosimplex-like

Aspergillus

classification

ecosystem

genetics

phylogeny

polymerase chain reaction

random amplified polymorphic DNA

Aspergillus

Ecosystem

Phylogeny

Polymerase Chain Reaction

Random Amplified Polymorphic DNA Technique