Identification and characterization of yeasts isolated from the South Shetland Islands and the Antarctic Peninsula

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 Antarctica is considered one of the most extreme environments on Earth because of its low temperatures, dryness, high incidence of solar radiation and low nutrient availability. Nevertheless, microorganisms including yeast have successfully colonized Antarctica; however, little is known about Antarctic yeast. In this study, cultivable yeast from soil samples collected from several islands of the South Shetland archipelago and Antarctic Peninsula were identified and characterized at different levels. Most yeasts were psychrotolerant and belonged to eleven genera, with the majority belonging to the Cryptococcus genus. Most yeasts were able to oxidize dextrin, ?-d-glucose, sucrose and d-trehalose and to assimilate turanose, d-xylose, dextrin, d-trehalose, ?-d-glucose and salicin. Evaluation of twelve hydrolytic enzymes revealed that yeast isolates displayed four to seven different enzyme activities, with lipase, alkaline phosphatase and invertase