ECCO XL – abstract submission

Important notes:
- posters will be presented in an upright format (DIN A0)

Title of the oral presentation / poster
Screening a Greek actinobacterial culture collection for antiaging compound producers

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Abstract summary (max. 1,500 characters, incl. spaces)
Culture collections are a vital repository of microbial biodiversity and are also of great use to the biotechnology industry since many strains kept at collections are able to produce secondary metabolites with a wide variety of useful applications. One group of bacteria capable of producing very large numbers of secondary metabolites, many of which are of vital importance to modern medicine and agriculture, are the actinobacteria. Recent literature indicates that the geomorphological and climate conditions of Greece result in soil reservoirs that have a high taxonomic and functional diversity of actinobacterial populations, providing a rich pool of strains with potential biotechnological value. The Athens University Bacterial & Archaea Culture Collection (ATHUBA) contains a large number of actinobacterial isolates from Greek environments with potential industrial utility. For this reason, we screened 1000 actinobacterial isolates for antiaging activity. The strains were grown in liquid culture and their secondary metabolites were extracted and then tested for inhibition of elastase (which breaks down skin collagen and can cause wrinkles) and tyrosinase (which produces melanin and can cause liver spots). Our in vitro screen found that 1% of strains produced elastase inhibitors and 8% produced tyrosinase inhibitors. These extracts will be further analysed and the most suitable compounds will be used in the manufacture of antiaging skin creams by an industrial partner.