

# Book of Abstracts

32<sup>nd</sup> INTERNATIONAL  
SPECIALIZED SYMPOSIUM  
ON YEASTS

YEAST BIODIVERSITY  
AND BIOTECHNOLOGY  
IN THE TWENTY-FIRST  
CENTURY

**SEPTEMBER 13-17, 2015**

HOTEL GIÒ - PERUGIA CONGRESS CENTRE,  
PERUGIA, ITALY  
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## ***BOOK OF ABSTRACTS***

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## The migratory birds: novel ecological niche of fungal diversity?

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Francesca et al (2010) studied the ecology of wine yeasts associated to birds caught in vineyards. The same authors were able to prove that migratory birds might carry living pro-technological yeasts for about 12 hours from the ingestion of inoculated feed (Francesca et al 2012). In subsequent studies, they tried to demonstrate that microorganisms are not only transported for a short period by birds, but microorganisms might be adapted to the specific conditions (body temperature of about 42 °C and low pH) of the intestinal tract of birds. Hence, it was demonstrated that the majority of isolates carried by birds are thermotolerant. The most interesting results were the isolation of two new species of thermotolerant yeasts, isolated from birds (Francesca et al 2013, 2014). Presently, the main scope of this work is to investigate an additional number of seven new species of thermotolerant yeasts isolated from migratory birds.

Bird's cloacae were analyzed for the presence of yeasts (Francesca et al 2012). All isolates were subjected to phylogenetic and phenotypic analyses as reported by Francesca et al (2014).

Twenty four cultures belonging to the genera *Candida* and *Aureobasidium* were isolated from birds. The phylogenetic analysis of D1/D2 domain of 26S and ITS region of 5.8S rRNA genes placed the cultures of *Candida* and *Aureobasidium* in new lineages that differed conspicuously from their closest relatives, *C. verbasci* and *A. pullulans*, respectively. For our *Candida* isolates the phenotypic analyses showed several discrepancies in assimilation tests between our cultures and *C. verbasci*, as well as notable growth up to 42 °C. Thus, additional evidence supporting the hypothesis that migratory birds represent a novel ecological niche of new species of thermotolerant yeasts gathered.

**KEYWORDS:** Novel species, Thermotolerant yeasts, Phylogenetic analysis, Migratory birds

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