quinines, coumarins, amino acids, steroids and inorganic compounds have been identified in propolis samples. Our main aim is to use propolis as an antifungal agent against CVV. Thus, the different extracts of propolis (alcoholic, aqueous, microparticles and aqueous soluble extract) were evaluated against C. albicans CAI4 grown on complete YPD medium. Sixteen hours-growth cells (about 10^6 cells/ml) were incubated with propolis (0.250; 0.50, 0.75 and 1.00% w/v of propolis dry matter), for 1, 2, 4, 6, 8, 12 and 24 hours. Drop-out experiments showed that propolis alcoholic extracts had fungicidal activity while microparticles and aqueous dry extracts had fungistatic action. Viability results demonstrated 100% of cell death with propolis alcoholic extract, while microparticles reduced the cell viability in 91.28% (12h) and 51.18% (24h) and aqueous soluble dry extract in 47.01% (24h). Alcoholic extracts of propolis not only inhibited the C. albicans morphological transition from yeast to mycelium or pseudophyphae but it is also highly toxic to all C. albicans morphotypes. Financial support: FAPESP, CNPq, and FINEP, Brazil.

**6C**

**ANTICANDIDAL METABOLITES FROM AN ENDOPHYTIC FUNGUS EMERICELLA SP. ASSOCIATED WITH AZADIRACHTA INDICA**

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NEEM (Azadirachta indica.Juss) is an indigenous medicinal plant in India and Africa. Studies to date have been primarily focused on the quantification of endophytic isolates obtained from surface sterilized fragments of plant species. There are only few studies regarding secondary metabolites from endophytes isolated from Neem showing antimicrobial activity. Also pathogenic fungi such as Candida, Cryptococcus, Aspergillus and other genera commonly cause life threatening infections of immuno-compromised hosts including patients receiving immunosuppressive therapy. In the US, Candida species are the fourth leading cause of nosocomial blood stream infections. Although synthetic natural drugs are available in the market, but there is always a call for new natural cost effective drugs. Leaves, bark, stem and fruits of neem plant were subjected to endophytic isolation. The strain code 001005 (identified as Emericella sp.) was selected as a potential isolate against a food pathogen, C. albicans ATCC 10231. Ethyl acetate extracts of fungal filtrates was found to have anti-candida properties. Also mass extract of fungal mycelium in ethanol was tested against candida. This serves to be first report on endophytic fungal isolation with respect to anti-candida potential. About 165 isolates were isolated from Azadirachta Indica from different locations of Jaipur, Rajasthan. Isolates were screened for their antimicrobial potential against five pathogens viz- S.aureus, Salmonella, P. aeruginosa, C. albicans, A.niger, E.coli etc. Crude extracts of fungal culture was assayed for antibacterial and antifungal activities and the isolate number 001005 (Accession number HE584810) that was later identified as Emericella sp. was found to be the best producer of anticandidal metabolite. Although there are reports of anticandial properties of plant extracts, this is the first report of isolation of endophytes from Azadirachta indica and then too, isolation of Emericella from the plant is also a significant fact that makes this research interesting. Further work on identification of the active anticandidal metabolite is in process by NMR, IR and MS.

**7A**

**NATURAL EXTRACTS FROM WILD FLOWERS USED IN PORTUGUESE FOLK MEDICINE LIKE A NEW ANTIFUNGAL AGENTS AGAINST CANDIDA SPECIES**

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The prevalence of opportunistic fungal infections has been increasing dramatically over the recent decades mainly due to the boom of the AIDS epidemic, increasing number of immunocompromised patients and the commonly use of indwelling medical devices. Although *Candida albicans* has been regarded as the most common causative agent of fungal infection in humans, nowadays other non-*Candida albicans* Candida (NCAC) species such as *Candida glabrata*, *Candida tropicalis* and *Candida parapsilosis*, are emerging as significant nosocomial pathogens and with high level of resistance to certain antifungal drugs. So, in the last years the interest in natural compounds has raised, specifically some phenolic extracts which have been known in folk medicine as antimicrobial agents. Thus, this work aimed to perform a screening of the antifungal potential of phenolic extracts of *Castanea sativa*, *Filipendula ulmaria* and *Rosa micrantha* flowers from Northeastern Portugal, against *Candida* species.

The extracts were exhaustively characterized by HPLC-DAD-ESI/MS. Hydrolysable tannins were the main group of phenolic compounds in *C. sativa* and *F. ulmaria* samples, while flavonoids including procyanidins were the most abundant group in *R. micrantha* (6090 ± 253 mg/Kg). The minimal inhibitory concentration (MIC) was determined according with the guidelines in National Committee for Clinical Laboratory Standards (NCCLS, M27-A2 document) with some modifications. All extracts revealed promising antifungal effect, with MIC values ranging from concentrations under 0.05 to 0.625 mg/ml. *R. micrantha* extract showed a strong effect (MIC ≤ 0.155mg/ml) against the four strains assayed. Furthermore, it is also possible to assume that was against *C. glabrata* and *C. parapsilosis* that the phenolic extracts showed the highest activity (MIC <0.05mg/ml).

Finally, the natural extracts effect was assessed on biofilm formation and on pre-formed biofilms by total biomass quantification using CV staining (1%, v/v). *F. ulmaria* and *R. Micran-

**8B**

**POLYAMINE TRANSPORTERS DUR3 AND DUR31 FACILITATE UPTAKE OF ANTIFUNGAL CATIONIC PEPTIDE HISTATIN 5 INTO CANDIDA ALBICANS**