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Pathogenic association of bambusicolous fungi in edible bamboo species hampers the production of bamboo shoots

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Consumption of tender edible bamboo shoots (EBS) as a popular cuisine worldwide is attributed due to its nutritive value and health-promoting properties. Therefore, edible bamboo species are now domesticated and commercialized at a large scale in many Southeast Asian countries. The production of edible bamboo species are restrained by diseases caused by pathogenic bambusicolous fungi valued at 40% losses of the total \$818.6 million generated annually in bamboo trade in North East India. Based on a systematic survey performed for 2 years in succession, only one *Basidiomycota*, a *Perenniporia* sp. was identified and validated by pathogenicity test. Ascomycota was the dominant and diverse group of pathogenic bambusicolous fungi. Some rDNA locus sequences failed to match sequences in the up-to-date databases and indicated novel species or genera. Divergence study based on rDNA locus showed that pathogenic bambusicolous fungi were located in the class of *Ascomycetes*, *Sordariomycetes*, *Eurotiomycetes*, *Dothideomycetes* and *Basidiomycetes*. The data demonstrated for the first time that *Fusarium*, *Cochliobolus*, *Daldinia*, *Leptosphaeria*, *Phoma*, *Neodeightonia*, *Lasiodiplodia*, *Aspergillus*, *Trichoderma*, *Peyronellaea*, *Perenniporia*, *Nigrospora* and *Hyporales* are potent pathogenic bambusicolous fungi genera restraining the production of edible bamboo *Dendrocalamus hamiltonii*.

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Medical and epidemiological impact of candidal biofilms: Nosocomial fungal infectivities

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The epidemiology of fungal infections continues to be a serious public health problem in Algeria. The healthcare associated infections are the leading cause of this scourge in hospitals. Some studies performed in western Algeria have pinpointed the *Candida* yeasts; which symbiotically lives in the oral and vaginal mucosa and on the skin of healthy people, may become opportunistic pathogen when their immune system is deficient. *Candida albicans* is the most implicated species in this type of infection. In spite of that, other non-albicans species such *C. glabrata*, *C. parapsilosis*, *C. dubliniensis* and *C. tropicalis*, classified as emerging are frequently isolated from patients which makes difficult diagnoses; the lack of no specific symptoms. On the other hand, fungal infections caused by *Candida* sp., are significantly related to the widespread use of medical devices. Catheters constitute an ideal surface for adhesion of planktonic cells of *Candida* sp. which results subsequently to the formation of biofilms. These complex structures are well organized to escape both the antifungal treatment and patient's immune defenses; they represent a virulence factor since they are difficult to eradicate and treat. Moreover, sensitive bacteria but not able to form biofilms such as *Diplococci* take shelter in biofilms of *Candida* and flight the antibiotics treatment. The importance of this study was to highlight the pathogenicity of the involved fungal strains. So given this situation the objective of our study was the isolation, identification and molecular characterization of *Candida* species. Furthermore the evaluation of different types of infectivities was decisive to distinguish a simple contamination of the catheter versus its infection in the direction of start an antibiotic treatment. Finally, the search for new non-toxic molecules extracted from endemic plants from Algeria and assessing their antibiofilm effect offers an approach to fight against pathogenic fungal biofilms.

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