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Antifungal and antibacterial activities of crude extracts of *Phellinus* spp. and *Coltricia fragilissima* (Basidiomycota, Hymenochaetaceae) from Cameroon and Democratic Republic of Congo

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Antifungal and antibacterial activities of crude extracts of *Phellinus extensus*, *Phellinus gilvus*, *Phellinus pachyphloeus*, *Phellinus senex* and *Coltricia fragilissima* were investigated on eleven species of bacteria and three of fungal human pathogens. The Minimum Inhibitory Concentration (MIC) was determined by the microdilution method and the results of this study reveals that: the MIC of the crude extract of *Phellinus extensus* was recorded to be 6.25 mg/mL on all bacteria strains such as *Bacillus subtilis*, *Enterococcus faecalis*, *Staphylococcus epidermidis*, *Enterobacter cloacae*, *Klebsiella aerogenes*, *Staphylococcus aureus*, *Mycobacterium smegmatis*, *Proteus vulgaris*, *Staphylococcus aureus*, *Proteus mirabilis*, *Escherichia coli* and 0.39 mg/mL on all species of fungal pathogens namely *Candida albicans*, *Aspergillus ochraceus* and *Aspergillus fumigatus*. The MIC of *P. gilvus* was 6.25 mg/mL on all bacteria strains except *M. smegmatis* which has a MIC of 12.5 mg/mL, and 0.39 mg/mL on all strains of fungi. The MIC of *P. pachyphloeus* was 6.25 mg/mL on all bacterial strains except *E. faecalis*, *S. aureus*, *K. aerogenes* and *E. cloacae* with each a MIC of 12.5 mg/mL; then 0.39 mg/mL on *C. albicans*, *A. ochraceus* and 1.56 mg/mL on *A. fumigatus* fungal strains. The MIC of *P. senex* was 6.25 mg/mL in all bacterial strains except *P. vulgaris* and *P. mirabilis* each having a MIC of 3.13 mg/mL, then 0.39 mg/mL on all fungal strains. The MIC of *C. fragilissima* was 6.25 mg/mL on all bacterial strains except *S. epidermidis*, *K. aerogenes* each which a MIC of 12.5 mg/mL and *E. cloacae* which a MIC of 3, 13 mg/mL. However, there was a MIC of 0.39 mg/mL on *C. albicans*, *A. fumigatus* and a MIC of 3.13 mg/mL on *A. ochraceus* strains of fungi. Its data have been revealed that, the antimicrobial activity of the crude extracts of *Phellinus* and *Coltricia* is stronger on pathogenic fungi than on bacteria. However, the activity of the crude extract of *C. fragilissima* is weak on *Aspergillus ochraceus* as long as that of the crude extract of *P. pachyphloeus* is moderate on *Aspergillus fumigatus*. *Coltricia fragilissima* being of the same family as *Phellinus* and having recorded the values of MIC eminently close to those of the latter may also be used for medicinal purposes like several known *Phellinus* species. Being highly represented in the sub-Saharan regions, these Hymenochaetacea are now part of the non-exhaustive list of medicinal mushrooms in the region and may constitute a new source of natural molecules that may be more active than synthetic products against certain fungal and bacterial contaminations.

Biography

I have completed my master at the age of 26 years old from Azad University of Medical Sciences. Blondo-Pascal Metsebing; Romuald Oba Dominique Claude Mossebo. Preparation and preliminary evaluation of bio-nanocomposites based on hydroxyapatites.

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