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Phyto chemical investigation of Pergularia daemia (Forsk) Chiov: A novel medicinal herb

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In this century we don't reach the goal of the production of organic medicines for preventing various diseases. Culture development and growing population day by day make this situation more critical. The requirement of medicines increased every day for growing population as well as the regular uptake of such organic medicines cause various life threadning side effects. To resolve this problem, the people invented an alternative way in the period of 18th century. They knew medicinal plants were the major natural organic factories and that kind of plants had variety of active components. The technique named phytochemistry is mainly used to determine and screen the bioactive components present in plants. Plant species provides thousands of livelihood components (micronutrients and macronutrients) from their various parts. By this effect, researchers and scientists explored incalculable inventions about the isolation of active compounds present in different plant species and tabulated their medicinal properties. By the same enroutement, we also established the presence of active phyto constituents in *Pergularia daemia* and the active components were isolated in two different solvent system (Methanol and Ethyl acetate). Our findings revealed that methanol extract has higher amount of alkaloids, steroids, flavonoids and tannoids than ethyl acetate extract. Ethyl acetate extract fructifically having terpinoids and glycosides. The isolated active components were identified by using various analytical tools such as TLC, HPLC, NMR and GC-MS.

Biography

V. Vaithiyanathan has completed his M.Phil at the age of 24 years from Annamalai University, Chidambaram, Tamilnadu, India. He has published 2 papers in reputed journals. He has attended more than 5 conferences related to his work.

Antifungal potential of three Camerounian medicinal plants

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Fungal infection has become a serious public health problem in the last two decades. In order to search for alternative treatment, the *in vitro* antifungal activities of extracts from *Uvaria angolensis, Uvaria muricata (Annonaceae)*, and *Terminalia catappa (Combretaceae)* was evaluated and their optimization with nystatin and ketoconazole was done.

Leaves, twigs and stem of plants were subjected to aqueous and ethanolic extraction. Agar dilution method was used to screen the antifungal activities. The phytochemical screening was done followed liquid-liquid partition to obtain fractions. Broth microdilution method and subculture were used to determine their antifungal parameters (MIC and MFC). The most active extracts were selected and their interactions with antifungal agents assayed in order to optimize their activities.

The yields of the extraction varied from 3.21% to 20.54%. Nine extracts were selected after preliminary antifungal screening. The phytochemical screening revealed the presence of phenols, flavonoids, anthocyanins, essential oils, triterpenes, steroids and saponins. The extract from leaves of *Terminalia catappa* showed the best antifungal activity on *Candida albicans*, *Cryptococcus neoformans* and *Candida parapsilosis* isolated from HIV patients with MIC of 1.56 mg/ml, 0.78 mg/ml and 0.78 mg/ml respectively. The most sensitive isolate was *C. parapsilosis* and the least sensitive was *C. albicans*. The interaction study of the combination of the promising extracts with nystatin and ketoconazole presented synergistic effects with the best index being FICI: 0.17±0.09 from *Terminalia catappa's* extract on *Candida albicans* and a significant reduction of the MIC values of the extracts, Nystatin (3 to 1600 times) and Ketoconazole (2 to 512 times).

These results support the traditional use of these plants in the treatment of infectious diseases and suggest that they could serve as potential sources of antifungal. They also showed that the combination of these extracts with antifungal drugs offers significant potential for the development of novel antifungal therapies.