Title of Article: In vitro activity of Bryophyllum pinnatum and Detarium microcarpum plants against Mycobacterium tuberculosis and other bacteria.

Author(s): Olugbuyiro, J.A.O., Akinbahun, O.F.

Outlet: Natural Products Research Bulletin [2012]. 1: 001-007. IF 0.527 ISSN 1478-6427

Abstract: Two Nigerian medicinal plants Bryophyllum pinnatum and Detarium microcarpum, reputed in traditional medicine for the treatment of several ailments were selected for this investigation. The plant materials were macerated with methanol then partitioned into four fractions using solvents of different polarities. The solvent extracts were evaluated for activities against Mycobacterium tuberculosis (Mtb) and five other pathogens: Staphylococcus aureus, Salmonella typhi, Pseudomonas aeruginosa, Klebsiella pneumoniae, Escherichia coli. The anti Mycobacterium tuberculosis (Mtb) assay used proportion method while agar disc diffusion method was applied for other bacteria. Hexane fractions of both plants proved very active against the test strains showing significant potency at 25µg/ml. The methylene chloride fractions of the two plant agents were also very active against Mycobacterium tuberculosis in a dose (25µg/ml) dependent manner compared with controls. The results revealed that the most potent fraction against Mycobacterium tuberculosis (Mtb) was hexane portion followed by methylene chloride layer of the two species. Also, the ethyl acetate fraction of BP possessed good antibacterial activity against the other test micro-organisms at 5mg and 2.5 mg strengths, D. microcarpum fractions were inactive against the bacteria. This study, in support of folkloric uses, presents Bryophyllum pinnatum and Detarium microcarpum as promising natural product agents for generating anti-infective against Mycobacterium tuberculosis (Mtb).

Keywords: Antitubercular agent; Antibacterial, Bryophyllum pinnatum; Detarium microcarpum; Mycobacterium tuberculosis; other pathogens; Pytochemicals