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Antibacterial, analgesic and antipyretic activities of aqueous and ethanol extracts of Psydrax locuples

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Psydrax locuples is a plant traditionally used to treat infectious diseases and disorders including pain and fever. Scarce scientific information is available to confirm the significance of the uses of the plant. This study investigated the antimicrobial activity of aqueous and ethanol extracts of shade-dried leaves using the disc diffusion test. The analgesic activity was evaluated using the hot plate and the acetic acid-induced writhing tests in albino mice. The yeast-induced fever assay was used to investigate the antipyretic activity of the plant. The extracts showed significantly ($p<0.05$) better antimicrobial activity against Gram-positive (*Bacillus cereus, Staphylococcus aureus, Streptococcus sp, Corynebacterium sp*) and Gram-negative (Escherichia coli and Pseudomonas aeruginosa) bacteria, and the fungus *Candida albicans*, compared to commercial recommended antibiotic and antifungal drugs. Both extracts administered orally inhibited writhing in dose-dependent manner. The ethanol extract inhibited writhing by 58.63% at 200 mg/kg. The same dose of both extracts showed significant analgesic activity in the hot plate test, 30, 60, 90 and 120 minutes after administration. Both extracts reduced yeast-induced pyrexia, and the temperature of mice administered the highest dose (400 mg/Kg of ethanol extract) was significantly below the normal body temperature of control animais, 2 hours post-treatment. Pyrexia was controlled to up to 5 hours post treatment. These findings demonstrated the antimicrobial, analgesic and antipyretic activity of P. locuples, thus justifying its extensive use in traditional medicine in Mozambique. Further studies are required to investigate the activities of constituent phytochemicals against various ailments, and ensure developments into clinical use.

Biography

Cristiano Macuamule completed graduate studies in Mozambique; Masters studies at Queensland University, Australia and PhD in Biochemistry at Stellebosch University, South Africa in 2014. Cristiano is a lecturer at Universidade Eduardo Mondlane (UEM) in Mozambique. He has been teaching Pharmacology and Toxicology, and supervising graduate and postgraduate students at UEM and externaly. His research interests are in drug discovery from synthetic and natural sources including medicinal plants and, antimicrobial drug resistance. Cristiano has published in reputed journals and serves as reviewer of projects in two national research agencies.

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