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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, two hours post-treatment. Pyrexia was controlled up to five 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.

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Twelve years of studies in larvicidal and deterrent activities against *Aedes aegypti* mosquito using Brazilian plants

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In 2004 the first publication of our group showed a mortality and deterrent effect promoted in presence of NaCl in *Aedes aegypti* oviposition sites. In 2009, we studied the activities of essential oil of *Piper marginatum* as deterrent and larvicidal effect. The same studies were performed to essential oils from *Alpinia purpurata, Croton rhamnifolioides, Commiphora leptophloeos* and *Etlingera elatior.* Recently, we used electrophysiology technique (EAD) to identify compounds responsible to deterrent effect in oils and provide evidences of their effect in oviposition bioassays. (E)-Caryophyllene, α-Humulene, dodecanal and n-dodecanol were proved deterrent compounds by our group; they were identified by EAD and tested in oviposition bioassays.

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