

Anti-Inflammatory and Analgesic Effects of Methanol Extract of *Rhizophora racemosa* Leaf in Albino Rats

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Abstract : In view of the peculiar environment of the Niger Delta, access to modern health care is limited, hence the inhabitants especially those in the swampy areas resorts to sourcing for alternatives cure for their ailments using plants commonly found in this area without scientific evaluation. *Rhizophora racemosa*, G. F. Meyer (Rhizophoraceae) is the most abundant mangrove plant in the Niger Delta Area of Nigeria. The plant has been observed to be used for relief of a toothache and dysmenorrhoea among some Ijaw communities in the region. This work has revealed the likely potential of the plant in drug discovery and development. The crude methanol extract at doses of 300 mg/kg and 600 mg/kg (intraperitoneal) were tested for analgesic effect using fresh egg albumin induced inflammatory pain and Randall-Sellito method to assess the pain threshold. The anti-inflammatory effect was also evaluated with the extract at doses of 300 mg/kg and 600 mg/kg (intraperitoneal) using acute inflammatory model; fresh egg albumin induced paw oedema and assessed using Plethysmometer in rats. The methanol extracts 300 mg/kg and 600 mg/kg exhibited a significant ($P < 0.001$) and dose-dependent analgesic activity compared with the negative control and a standard drug diclofenac using ANOVA with Least Significant Difference post hoc test as evidenced by increased pain threshold. Also, the extract significantly ($P < 0.001$) reduced the rat paw oedema induced by the sub plantar injection of fresh egg albumin when compared with the negative control and a standard diclofenac using above statistical methods. This study revealed that the plant possesses analgesic and anti-inflammatory activities hence provide scientific bases for use as medicine.

Keywords : analgesic, anti-inflammatory, plethysmometer, *Rhizophora racemosa*

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