

Evaluation of Anti-arthritic, HRBC Membrane Stabilization and Antioxidant Properties of the Edible *Phlogacanthus thyriformis* (Hardow) Mabb Flower Extracts and Their Correlation Studies

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ABSTRACT The present experiments were designed to scientifically prove the anti-arthritic and anti-inflammatory properties of traditionally used *P. thyriformis* flowers. The flower extracts were subjected to qualitative and quantitative screening. Gas chromatography mass spectrometry technique was employed and eight molecules were identified from the ethyl acetate extract using the NIST library. The extracts were also evaluated for *in vitro* antioxidant, anti-arthritic and anti-inflammatory activities. Potent antioxidant activity was observed for the ethyl acetate extract in both antioxidant assay methods with an IC₅₀ value of 63.36 μg/mL and 64.60 μg/mL, respectively. The ethyl acetate extract also exhibited significant activity in both anti-arthritic and anti-inflammatory activities. Correlation studies revealed that the presence of phenol, flavonoid, terpenoid and β-sitosterol in the ethyl acetate extract played a crucial role in its impressive activity. This study provided experimental evidence towards the traditional use of *P. thyriformis* flowers against arthritis and inflammation.