International Journal of Agricultural Sciences ☞ DOI:10.15740/HAS/IJAS/19,RAAAHSTSE-2023/47-55
Volume 19 | RAAAHSTSE - 2023 | 47-55 ■ ISSN : 0973-130X Visit us : *www.researchjournal.co.in*

RESEARCH PAPER

Arisaema jacquemontii, a plant with antioxidant and antibacterial efficiency

Chandan Thappa, Vikas Sharma*, Abeeda Mushtaq **and** Proloy Sankar Dev Roy
Natural Products Laboratory, Division of Biochemistry, Faculty of Basic Sciences, Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu, Main Campus, Chatha, Jammu (Jammu and Kashmir) India
(Email: vikas.skuast@gmail.com)

Abstract : *Arisaema jacquemontii* is a traditionally used medicinal herb that belongs to the Araceae family. In this study, phytochemical and antibacterial screening of *A. jacquemontii* was carried out to explore its pharmacological potential. Dried shoot part of of *A. jacquemontii* was extracted in 5 organic solvents namely *n*-hexane, chloroform, acetone, ethyl acetate, methanol. The extracts were screened for phytochemical assays (total phenolicand flavonoids content), antioxidant potential (DPPH free radical scavenging activity, FRAP activity, metal ion chelation assay) and antibacterial activity against five different strains namely three gram positive (*Staphylococcus aureus* MTCC7443, *Micrococcus luteus* MTCC4821, *Bacillus subtilis* MTCCCC2389) and two gram negative (*Escherichia coli* MTCC2127, *Klebsiella pneumoniae* MTCC7172).The results revealed that significant amount of total phenolic and flavonoid content were determined in methanolic and acetone extracts. Moreover, it was also observed that methanol extract((IC_{50} value of 105.79±0.16 µg/ml) showed highest DPPH scavenging activity followed by acetone extract(IC_{50} value of 131.90±0.41µg/ml). Similarly, the highest metal ion chelation and FRAP activity was recorded in methanol extract. Furthermore, the chloroform extract showed the antibacterial activity against five different bacterial strains. The highest zone of inhibition recorded against *Staphylococcus aureus* (14.00 ± 0.08 mm) by chloroform extract. It was also observed that chloroform extract showed lowest minimum inhibitory concentration (MIC) value. *A. jacquemontii,* having significant amount of bioactive components and pharmacological activities, can be further explored for isolation of active components against a number of aliments.

Key Words : Phytochemical,Phenols, Flavonoids, Antioxidant, Antibacterial, Bioactive component

View Point Article : Thappa, Chandan, Sharma, Vikas, Mushtaq, Abeeda and Roy, Proloy Sankar Dev (2023). *Arisaema jacquemontii,* a plant with antioxidant and antibacterial efficiency. *Internat. J. agric. Sci.*, **19** (RAAAHSTSE) : 47-55, **DOI:10.15740/HAS/IJAS/19, RAAAHSTSE-2023/47-55.**

Article History : Received : 13.03.2023**; Accepted :** 20.03.2023

***Author for correspondence :**