

14th International Conference on Pharmaceutical Education and Practice

October 28th, 2022 | Webinar

ISSN: 2952-8100

Pharmacognostic studies, Total Flavonoid Content and Artemisinin concentration in *Artemisia vulgaris* L. leaves grown in Kamwenge District, Western Uganda

Artemisia vulgaris L. is used for treatment of malaria in Western Uganda instead of *Artemisia annua* L. Until to date no scientific evaluation has been reported on whether the leaves of the two species have similar physical and chemical characters. The present study evaluated the botanical, physicochemical, and chemical characters of leaves of *A. vulgaris* L. Macroscopy and microscopy studies, histochemical, physicochemical properties, and chemical parameters were carried out using standard procedures. Macroscopically, the leaves are dark green, with a sweet, strong and aromatic odor, pleasant, tangy and bitter taste. Microscopically, epidermis is amphistomatic, has anomocytic stomata on both adaxial and abaxial leaf surfaces and bicellular, biseriolate glandular trichomes and unicellular T-shaped non-glandular trichomes. Histochemical studies showed the presence of cell wall materials and cell inclusions. Leaf constants revealed stomatal number (10.0), stomatal index (32.6), palisade ratio (7.8), vein islet number (15.0) and vein termination number (17.0). Physicochemically, moisture content (8.10 %), total ash (10.30 %), acid-insoluble ash (1.60 %), and sulphated ash (13.90 %), water-soluble ash (5.02%), alcohol-soluble extractive (9.73 %) and water-soluble extractive (19.9 %). Chemically, all the preliminary secondary plant metabolites were present except saponins and anthraquinones. Major fingerprints of extracts were showed at nine (9) Rf values. Artemisinin concentration was 1.72% w/w and total flavonoid contents were 1.10 and 0.84 mg QE/g in diethyl ether and methanol extracts respectively. These findings are of importance in the establishing diagnostic features of *A. vulgaris* L. which could be used for identification and preparation of its monograph.

Biography

Ivan Kahwa completed his Msc.in Pharmacognosy and Medicine Science from Mbarara University of Science and Technology and has attended several trainings in natural products from different institutions. He is the director of KivanWoods Herbal Products and also a part time lecturer at Mbarara University of Science and Technology. He has published more than 10 papers in reputed journals



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Received: September 20, 2022; **Accepted:** September 23, 2022; **Published:** October 29, 2022