

**DETERMINATION OF SELECTED FLAVONOIDS IN THE AERIAL PARTS
OF *Artemisia diffusa* FROM THE FLORA OF UZBEKISTAN BY HPLC**

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Plants of the genus *Artemisia* L. (Asteraceae) are recognized as a valuable source of biologically active compounds, particularly flavonoids, which exhibit a wide range of pharmacological activities, including antioxidant, anti-inflammatory, antimicrobial, and cytotoxic effects [1, 2]. Although numerous *Artemisia* species have been extensively investigated, the phytochemical composition of less-studied species such as *Artemisia diffusa* remains poorly characterized.

The aim of the present study was to qualitatively and quantitatively determine selected flavonoids in the ethyl acetate fraction of the ethanolic extract obtained from the aerial parts of *Artemisia diffusa* collected in Uzbekistan using high-performance liquid chromatography (HPLC).

HPLC analysis was performed using an Agilent 1100 liquid chromatograph (Agilent Technologies, USA) equipped with a quaternary gradient pump, an online degasser, a variable wavelength detector (VWD), and a Rheodyne 7725i injector. Chromatographic separation was carried out on a Zorbax Eclipse Plus C18 column (3.0 × 100 mm, 5 μm) fitted with a Zorbax Eclipse XDB C8 guard column (2.1 × 12.5 mm, 5 μm). The mobile phase consisted of a gradient of acetonitrile (15–60%) in water over 30 min at a flow rate of 0.5 mL/min. Detection was performed at 350 nm. Compound identification was based on comparison of retention times with those of authentic reference standards, while quantification was carried out using the external standard method.

The analysis revealed the presence of the following flavonoids in the ethyl acetate fraction of *Artemisia diffusa*: dinatin (0.89%), pectolinarigenin (0.47%), apigenin (0.29%), quercetin (0.21%), eupatilin (0.16%), axillarin (0.11%), and casticin (0.05%).

The obtained results indicate that *Artemisia diffusa* is a promising source of methoxylated flavonoids. The relatively high contents of dinatin and pectolinarigenin highlight the potential of this species for further phytochemical and pharmacological investigations. To the best of our knowledge, this is the first report on the occurrence of these flavonoids in the aerial parts of *Artemisia diffusa*. These findings expand the current knowledge of the phytochemical profile of this species and may contribute to its chemotaxonomic characterization, the standardization of herbal raw materials, and the identification of new natural sources of biologically active compounds.

References

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