



ISOLATION OF THE METABOLITES FROM *ASTRAGALUS ALOPECIAS* AND DETERMINATION OF THEIR CHEMICAL STRUCTURE

Akhmedov A.D.¹

Mamadaliyeva N.Z.^{1, 2}

¹Institute of the Chemistry of Plant Substances, Tashkent city, Republic of Uzbekistan

²Alfraganus University, Tashkent city, Republic of Uzbekistan

e-mail: ahmedovanvar26@gmail.com Tel: (90) 010-61-50

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Relevance: Currently, the drugs used in medicine are mainly synthetic drugs, their therapeutic effect is effective and fast, but they have some harmful effects. Therefore, a lot of work is being done in the world to create drugs from relatively harmless plant raw materials. In Uzbekistan, providing our people with harmless, high-quality, affordable drugs remains one of the important tasks of our state policy.

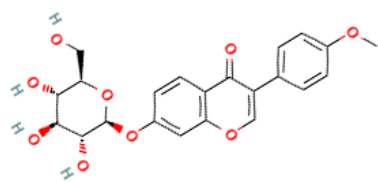
Purpose of the study: *Astragalus* (family Leguminosae) is a large genus widespread in temperate regions of the world, mainly in Eurasia and North America. *Astragalus* has been used in Central Asian traditional medicine for centuries to treat kidney and bladder stones. Phytochemical studies of *Astragalus* species have led to the isolation and identification of triterpenoid saponins, flavonoids, phenylpropanoids, alkaloids and some other compounds. In terms of medicinal use and scientific research, our scientific work focuses on the isolation of biologically active substances from the *Astragalus alopecias* Pall. species of the *Astragalus* genus.

Astragalus alopecias Pall. - locally known as Tulkikabi astragal, is spread out in Central Asia (Tian-Shan, Pamir-Alay, Kopetdog), Afghanistan, Iran, and Pakistan. It is a perennial plant growing to 40-80 cm tall and flowering from May to June. Based on the results of the literature review and examination, it was found that there is almost no available information about the chemical components of this species. We continued our search for natural compounds in the *Astragalus* genus by studying the aerial parts of *A. alopecias* collected from Boysuntog (Surkhandarya region, Uzbekistan).

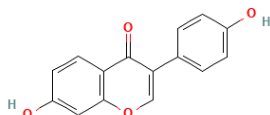
Methods and techniques: Thin layer chromatography of the methanol extract of *A. alopecias* revealed the presence of several flavonoids and triterpene glycosides in the plant. Processing of the methanol extract with ethyl acetate yielded the ethyl acetate fraction. This fraction was subjected to multiple column chromatography to isolate the isoflavones ononine (C₂₂H₂₂O₉) (1) and daidzein (C₁₅H₁₀O₄) (2). The methanol extract was treated with butanol to obtain a butanol fraction. This fraction was subjected to multiple column chromatography to identify the glycoside cycloalpioside D (C₃₅H₅₈O₉) (3).

Results: The chemical structure of the substances was determined by mass and NMR spectra. This substance was previously isolated from some *Astragalus* species. It was first identified from *A. alopecias*.

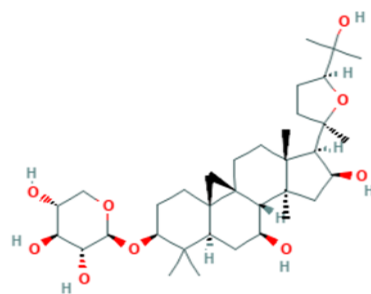
Conclusions: For the first time, three secondary metabolites were isolated from *A. alopecias*. Research is currently being conducted to evaluate the biological activities of the isolated compounds.



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