

PUBLICATIONS

THE DEGREE OF RESEARCH ON ALKALOID CONTENT IN SPECIES OF THE FAMILY AMARANTHACEAE

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Medicinal plants attract significant attention for the prevention, management, and treatment of various diseases as an alternative to synthetic chemicals. In this regard, the search for low-toxic and effective remedies of plant origin remains highly relevant. Among wild species, representatives of the family Amaranthaceae (including the former family Chenopodiaceae) have long been of considerable interest. This family comprises more than 1,600 species and over 100 genera distributed worldwide. The highest concentration of species is observed on the Mediterranean coast, in Western, Central, and Middle Asia, the prairies of North and South America, and the deserts of Australia. Within the CIS, the family is represented by 53 genera and 400 species; in Middle Asia, by 50 genera and 340 species; and in Uzbekistan, approximately 200 species are found, distributed across 45 genera. A central place within the Amaranthaceae family is occupied by the following genera: *Amaranthus*, *Chenopodium*, *Salsola*, *Atriplex*, *Suaeda*, *Halimocnemum*, and *Climacoptera* [1].

Many species of this family are of great importance in animal husbandry as forage plants, particularly in desert zones, while others serve as sources of fuel. In this context, *Haloxylon* is of non-negligible value, specifically functioning as a sand stabilizer. The seeds of certain representatives contain edible fatty oils, whereas others have been found to yield essential oils, coloring agents, and other substances. In folk medicine, an infusion of *Dysphania graveolens* is administered as a carminative and stomachic remedy, as well as for the treatment of headaches, asthma, colds, and various other ailments.

Among the Amaranthaceae family, valuable alkaloid-bearing plants have been identified, such as *Anabasis aphylla* L. Its primary alkaloid, anabasine, was one of the first domestic alkaloids to find widespread application in agriculture as an insecticide for various industrial, vegetable, fruit, and other crops. Additionally, the alkaloid salsoline, an isoquinoline derivative, was isolated from *Salsola richteri* Karel. This alkaloid has been successfully utilized in therapy as an antihypertensive drug to lower blood pressure.

During expeditions aimed at identifying alkaloid-bearing plants of Uzbekistan, 160 species of this family were analyzed for their alkaloid content. Among them, 139 plant species were found to be alkaloid-bearing to varying degrees. Specifically, individual alkaloids were isolated from 14 species, the total alkaloid content was determined for 19 species, and for the remaining species, only preliminary qualitative analyses were conducted to confirm the presence of alkaloids. As a result, potential sources of alkaloids were identified among species of the genera *Atriplex* L., *Chenopodium* L., *Salsola* L., and others.

References:

1. Takhtajan, A.L. *System and Phylogeny of Flowering Plants*. Moscow-Leningrad, 1966.