

**COUMARIN-CONTAINING PLANTS OF THE FAMILY APIACEAE IN THE
URGUT BOTANICAL-GEOGRAPHICAL REGION (SAMARKAND REGION)**

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The family Apiaceae includes numerous food, forage, essential-oil-bearing, medicinal, and other plants that have been used by humans since ancient times. Species of the family Apiaceae contain a wide variety of physiologically active compounds, including flavonoids, sesquiterpene lactones, coumarins, triterpenoid saponins, other terpenoids, alkaloids, polyacetylenic compounds, and other biologically active substances. In terms of the diversity of coumarin compounds, Apiaceae is undoubtedly one of the most important plant families.

Coumarin was first isolated in pure form in 1820 by Vogel from the fruits of the South American tree *Dipteryx odorata* (Aubl.) Willd. (family Fabaceae). The compound was named coumarin after the local name of the tree, “coumarouna”. Coumarins are widely distributed in plants, particularly among representatives of the families Apiaceae, Fabaceae, and Rutaceae. In nature, the most common forms are the simplest coumarin and furanocoumarin derivatives (Matos M.J. et al., 2015). Coumarins exhibit antispasmodic, antimicrobial, vasodilatory, and photosensitizing activities. At high doses, however, they may have toxic effects on the liver.

Coumarins are widely distributed throughout the plant kingdom. They have been identified in more than 200 species of higher and lower plants belonging to 34 families. Among the medicinal plants used in traditional medicine, representatives of the family Apiaceae are particularly rich in coumarin compounds. Such species include *Aphanopleura capillifolia*, *Bupleurum falcatum*, *Carum carvi*, *Conium maculatum*, *Echinophora tenuifolia*, *Falcaria vulgaris*, *Ferula clematidifolia*, *F. diversivittata*, *F. foetidissima*, *F. kokanica*, *F. kuhistanica*, *F. ovina*, *F. penninervis*, *F. samarkandica*, *F. schtschurowskiana*, *Heracleum lehmannianum*, *Prangos fedtschenkoi*, *P. ornata*, *P. pabularia*, and others.

Studies have established that approximately 31 coumarin-containing species belonging to 21 genera of the family Apiaceae occur in the territory of the Urgut botanical-geographical region. Among the representatives of the family Apiaceae growing in the Urgut botanical-geographical region, *Komarovia anisosperma*, *Prangos pabularia*, and species of the genus *Ferula* L. are of particular interest, including *F. sumbul*, *F. kuhistanica*, *F. ovina*, *F. penninervis*, *F. samarkandica*, and others.

References:

1. Matos, M.J., et al. (2015). Coumarins – an important class of phytochemicals // *Phytochemicals-Isolation, Characterisation and Role in Human Health*. P. 113–140.