

SEVERAL PREVALENT ESSENTIAL OIL PLANTS FOUND IN THE KYRTASHTAU REGION, ALONG WITH THEIR DISTINCTIVE BIOMORPHOLOGICAL CHARACTERISTICS.

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Abstract: This article reviews several key essential oil plants commonly found in the territory of Kyrtashtau, focusing on their unique biomorphological features. Through field surveys and detailed morphological analyses, the research identifies and describes the botanical traits of these plants. The species examined include *Torilis arvensis*, *Mentha longifolia* var. *asiatica*, *Prangos pabularia*, *Marrubium anisodon*, and *Artemisia rutifolia*. Understanding the biomorphological characteristics of these plants is crucial for their accurate identification, conservation, and sustainable utilization in various industries. This study contributes valuable insights into the botanical richness of Kyrtashtau and underscores the significance of these essential oil plants for both ecological conservation and economic development.

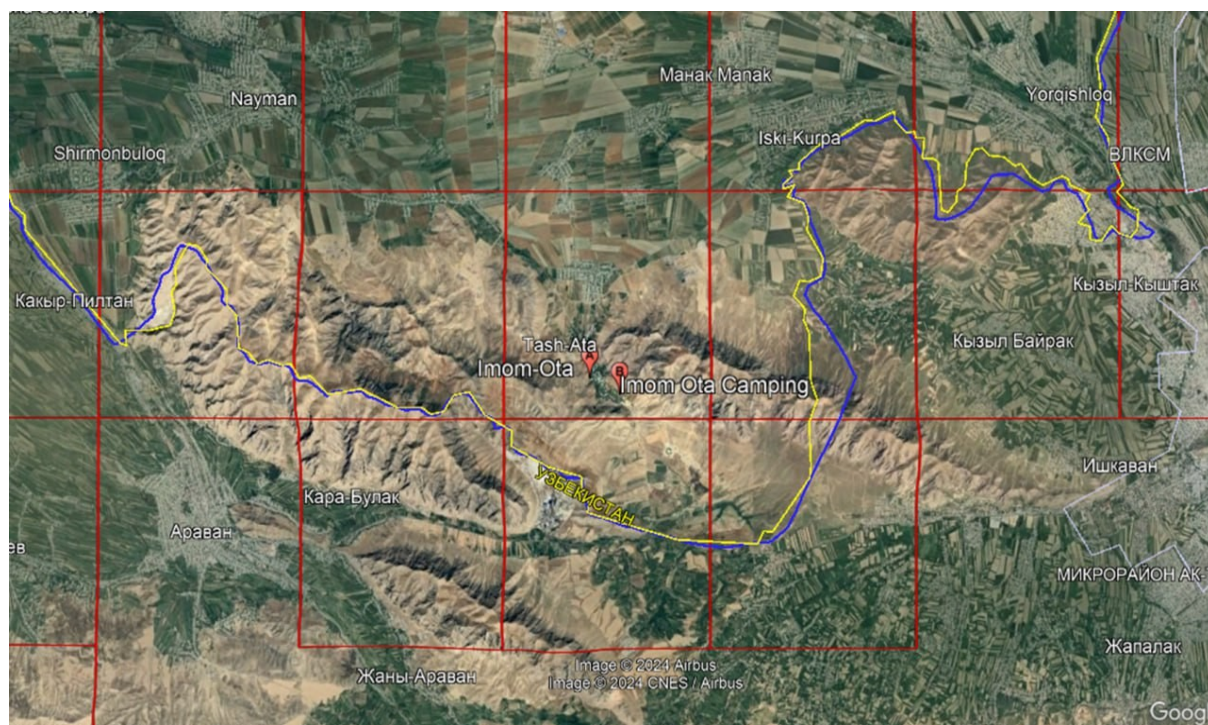
Key words: *essential oil plants, torilis arvensis, mentha longifolia, prangos pabularia, marrubium anisodon, artemisia rutifolia*

Kyrtashtau, a region known for its diverse and unique flora, encompasses a variety of essential oil plants that contribute significantly to the local ecosystem and various industries. Essential oils extracted from these plants are valued for their aromatic properties and have applications in cosmetics, pharmaceuticals, and traditional medicine. This study focuses on elucidating the biomorphological features of key essential oil plants found in Kyrtashtau (Imom ota), Uzbekistan, providing insights into their botanical characteristics and ecological roles. Understanding these features is crucial for plant identification, conservation efforts, and sustainable utilization of natural resources. The selected essential oil plants, including *Torilis arvensis*, *Mentha longifolia* var. *asiatica*, *Prangos pabularia*, *Marrubium anisodon*, and *Artemisia rutifolia*, represent a cross-section of the region's botanical richness. Each species exhibits unique traits that make them distinct contributors to the essential oil industry and local biodiversity. Through field surveys and detailed morphological analyses, this research aims to document and describe the key biomorphological characteristics of these plants. This knowledge not only enhances our understanding of the flora of Kyrtashtau but also underscores the importance of sustainable resource management and conservation practices. By exploring the biomorphology of essential oil plants in Kyrtashtau, this study seeks to contribute valuable insights to botanical research, conservation efforts, and economic development initiatives centered around natural resources. The findings of this study will provide a foundation for further exploration into the chemical composition and potential applications of essential oils derived from these plants. In summary, the study of essential oil plants in

Kyrtashtau offers a window into the region's botanical diversity and highlights the ecological and economic significance of these plants. This research is pivotal for promoting sustainable practices that support both biodiversity conservation and local livelihoods.

***Torilis arvensis* (Huds.) Link**

Biomorphological Features: *Torilis arvensis*, commonly known as spreading hedge-parsley, is a herbaceous annual plant characterized by its slender, branching stems and finely divided leaves. The leaves are pinnate with narrow, toothed leaflets. Small white flowers form in umbels at the tips of the branches, giving way to fruits with hooked spines. The native range of this species is Europe to Central Asia and Pakistan, Macaronesia, N. Africa to Arabian Peninsula. It is an annual and grows primarily in the temperate biome. [1]



Pic. 1. *Torilis arvensis* is native to Central Asia, including Kyrtashtau [2]

***Mentha longifolia* var. *asiatica* (Boriss) Rech. f.**

Biomorphological Features: *Mentha longifolia* var. *asiatica*, a variety of wild mint, is a perennial herb with elongated lanceolate leaves and a strong minty aroma. It produces dense spikes of small lilac-colored flowers. The stems are square-shaped, a characteristic feature of the mint family (*Lamiaceae*). The native range of this variety is W. Asia to W. China. It is a perennial and grows primarily in the temperate biome. First published in Fl. Iranica 150: 559 (1982)

***Prangos pabularia* Lindl.**

Biomorphological Features: *Prangos pabularia*, a member of the *Apiaceae* family, is a tall perennial herb with compound umbels of small white flowers. The plant features finely divided, aromatic leaves and a robust taproot. Its fruits are oval-shaped and ribbed. The native range of this species is Afghanistan to Central Asia and W. Himalaya. It is a perennial and grows primarily in the temperate biome.

***Marrubium anisodon* Koch**

Biomorphological Features: *Marrubium anisodon*, also known as horehound, is a perennial herb with woolly leaves and square stems. The leaves are wrinkled and emit a strong, pleasant aroma. Clusters of small white flowers are densely packed in whorls around the stem. The native range of this species is Central Albania to Central Asia and W. Himalaya. It is a perennial and grows primarily in the temperate biome. First published in *Linnaea* 21: 696 (1849) Native to: Afghanistan, Albania, Greece, Iran, Kazakhstan, Kirgizstan, Krym, Pakistan, Tadzhikistan, Transcaucasus, Turkey, Turkmenistan, Uzbekistan, West Himalaya [3]

***Artemisia rutifolia* Steph. ex Spreng. [4]**

Biomorphological Features: *Artemisia rutifolia*, a species of sagebrush, is a shrub characterized by its silvery-gray foliage and aromatic scent. The leaves are deeply lobed or divided into linear segments. This name is reported by *Asteraceae* as an accepted name in the genus *Artemisia* (family *Asteraceae*). [5] The record derives from TICA (data supplied on 2023-11-28) which reports it as an accepted name Yellowish flower heads are borne in clusters along the branches. First published in *Syst. Veg.*, ed. 16. 3: 488 (1826)



Fig. 2. *Artemisia rutifolia* Steph. ex Spreng [6]

The native range of this species is Uzbekistan, Afghanistan to S. Siberia and Himalaya. It is a perennial or subshrub and grows primarily in the temperate biome. These essential oil plants play significant roles in the local ecosystem and have traditional uses in herbal medicine and culinary practices. The biomorphological descriptions provided here serve as foundational knowledge for identifying and studying these plant species in Kyratashtau. Further research on the chemical composition of their essential oils and their ecological interactions would contribute to a comprehensive understanding of their importance and potential applications.

Conclusion The study of essential oil plants in Kyratashtau highlights the importance of biodiversity conservation and sustainable resource management. By leveraging the biomorphological knowledge presented here, stakeholders can make informed decisions to harness the benefits of these natural assets while ensuring their long-term preservation for future generations. The essential oil plants identified in the territory of Kyratashtau exhibit diverse biomorphological characteristics that contribute to their ecological significance and economic potential. Through this study, we have highlighted five key plant species—*Torilis arvensis*, *Mentha longifolia* var. *asiatica*, *Prangos pabularia*, *Marrubium anisodon*, and *Artemisia rutifolia*—each possessing unique traits that make them valuable contributors to the essential oil industry and local biodiversity. Understanding the distinct attributes of each species facilitates their sustainable utilization for essential oil extraction, herbal medicine, and other commercial applications. Furthermore, the presence of these essential oil plants underscores the ecological resilience and adaptability of Kyratashtau's flora to its specific environmental conditions. Conserving and promoting the cultivation of these plants not only preserves biodiversity but also supports local livelihoods and promotes sustainable practices in the region.

In conclusion, the study underscores the importance of botanical research and conservation in Kyratashtau, emphasizing the need for sustainable practices that balance economic development with environmental stewardship. By continuing to explore and protect the unique flora of this region, we can ensure its preservation for future generations while unlocking the full potential of its natural resources.

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