

Some Biological Characteristics of the Plant of the Large Blood Pump - *Chelidonium majus* L. in the Conditions of the Zarafshon Oasis

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Abstract The article presents information on some morpho-biological characteristics, growth and development of *Chelidonium majus* L., one of the valuable medicinal plant species, in the Zarafshan oasis.

Keywords Medicinal plants, Big blood, Height growth, Biomass, Root system, Leaf, Flowering, Panicle, Seed, Fertility, Mass of 1000 seeds

1. Introduction

In the natural flora of Uzbekistan, 4,500 types of plants are recorded, and now more than 230 types of wild and cultivated plants are used for medicinal purposes. Of these, 171 products of 152 types are produced in the chemical pharmaceutical industry (Kholmatov, Kasimov, 1994). These data were given 30 years ago, and now in our republic great importance is attached to the comprehensive study of medicinal plants and the establishment of plantations for their production. *Chelidonium majus* L. is one of the unique medicinal plants. In the scientific literature of the world, 8 types are distinguished depending on the shape of the cutting of the plant leaf segments, the hairiness of the leaves and the size of the flowers. Currently, these species are accepted as synonyms and 2 subspecies of the plant: *Chelidonium majus* L. and *Chelidonium majus* L. *grandiflorum* (DC) *Printz* distinction is accepted (Hassler, 2022). This plant has been used in folk medicine in our country since ancient times. The great physician Ibn Sina treated cold sores by mixing the top part of the ground in wine, and ordered the root to be chewed in order to relieve pain in toothache. He used to evaporate the juice of the undried ground part of the plant until half was left, and ordered patients to drink the remaining juice to strengthen their eyesight.

2. Botanical Description

Blood poppies are perennial herbaceous plants, 30-100 cm tall, belonging to the *Papaveraceae* family. The stem grows

upright, the upper part is branched. The leaves in the lower part of the root and stem are banded, the upper ones are not banded, and they are arranged in a row on the stem and branches. The leaves are thin, deeply cut into 3-5 lobes (the top one is larger) feathery, the underside is gray. Pale yellow flowers are located in simple umbels of 4-8 at the ends of stems and branches. The calyx leaves are two, they fall off when flowering, the petals are four, the size is 0.8-1.0 cm in height, 0.7-0.78 cm in width. The fruit is an elongated capsule with many seeds. It blooms in April-September and bears fruit in June-October.

3. Distribution Area

The European part of the former USSR, the Crimea, partly in Kazakhstan, Siberia and the Far East, grows among bushes, on the edges of forests, on the banks of cliffs, in populated areas, in gardens and parks (Flora USSR, 1937). The existence of information about the use of this plant by Ibn Sina indicates that the natural range of this species covers the territory of Uzbekistan.

4. The Part Used in Medicine

In medicine and folk medicine, the above-ground part of the fennel is used. It is harvested when the plant is in bloom, and the soybeans are dried on the ground.

5. Chemical Composition and Use

The surface part of konchop contains 0.97-1.87% **alkaloids**: chelidonine, cholerythrine, sanguinarine, protopine, etc. It also contains essential oil, vitamin C up to 171 mg%,

carotene up to 14.9 mg%, alkaloids-phenanthridine compounds, protoberberine, protopine, **organic** (chelidon, apple, lemon, etc.) **acids**, flavonoids, saponins and other substances (Korotkikh et al., 2023).

A decoction of the ground part is used as an expectorant in liver and gall bladder diseases, and a paste made from the ground part is used in the treatment of skin tuberculosis. The above-ground part of the plant is included in the composition of herbaceous tea-collections.

The undried plant is rich in orange milky sap. This sap is used in folk medicine to remove warts and skin diseases (skin tuberculosis, etc.).

Ibn Sina mixed the rhizomes in wine to cure colds, and ordered the root to be chewed to relieve pain in toothaches. He prescribed the juice of the undried ground part of the plant to strengthen the eyesight of patients. In the CIS countries, the "Ukraine" cytotoxin drug is prepared based on the alkaloids of the hyacinth, and this drug is used in the treatment of malignant neoplasms.

The purpose of the research is to develop the technological basis of plant cultivation and establishment of plantations based on the study of the biological properties of the *Chelidonium majus* L. plant in the conditions of the oasis.

6. Research Sources and Methods

Chelidonium majus L. plant seeds imported from Germany served as a source of research. In carrying out phenological observations, I.N. From the method of Beideman (1960), in studying the characteristics of plant growth, biomass yield A. Rabbimov and G. From the methods of Khamraevlar (2016), in the study of quality indicators of seeds, I.G. Leurda and L.V. From the methods of Belskikh (1974), in the biostatistical analysis of data, B.A. Dospekhov (1979) methods were used.

7. Analysis of Research Results

The seeds of the large sedum plant are very small, smooth, dark and shiny in color, and the absolute mass of 1000 seeds was found to be 5.71 mg. In laboratory conditions, 60% seed germination was observed for 12 days in an environment with a germination temperature of 23°C. During the experiments (30 days), the total germination was 70%. Germination of seeds ripened under irrigation conditions was observed in August-September in field conditions. The sprouted plants formed a ball and entered the village green. Before harvest, the average number of leaves in the petioles of the plants was 13 pieces, and the length of the largest leaves was 13 cm on average. The average number of leaf plates in each compound leaf was 8.1 pieces. Spring regrowth of plants was observed on March 11. The budding period was observed on March 20. The flowering of the first plants began on March 30. Full flowering of all controlled plants was observed from

April 5. Some morpho-biological characteristics of plants during flowering are presented in Table 1.

Table 1. Growth parameters of *Chelidonium majus* L. during the flowering period under cultivated conditions Samarkand, 2024

Biometric features	Indicators
Growth in height, cm	20.8±0.9
Number of flower clusters, pieces/bush	5.7±0.2
Leaf length, cm	13.4±0.3
The number of leaf plates, pcs	8.1±0.3
Plant above-ground phytomass, g	66.5±3.7
Root mass, g	1.13±0.2

From the plant It is used as a medicinal raw material during its flowering period. Therefore, the obtained data can serve as preliminary forecasts in establishing the use of the plant. It would be appropriate to continue research on the study of the ecological and biological characteristics of the plant during its ontogenesis, and the assessment of seed productivity indicators.

8. Conclusions

The preliminary data obtained from the researches indicate that there is a possibility to start seed production of *Chelidonium majus* L. plant and establish its production plantations in the Zarafshan oasis.

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