

Identification of valuable genotypes of the wild growing *Gentiana lutea* L. species

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Abstract

The thorough researches performed on the approx. 360 species belonging to the *Gentianeae* genus have ascertained that, from medicinal point of view, the most important is *Gentiana lutea* L., protected species, which is endangered because of the irrational cropping from the wild flora. For medicinal purposes, the most are used its roots and the rhizome, but because of its extinction danger, nowadays are also used these parts from other species, like *Gentiana punctata* L., *Gentiana pannonica* Scop., *Gentiana purpurea* L. și *Gentiana asclepiadea* L.

The most frequently used raw material, *Radix Gentianae*, is very famous for its curative properties: tonic, digestive, anti-helminthes, against fever and malaria. Stimulation of white cells production as well as its appetizing and bitter taste are other main characteristics of this miraculous plant.

Among the 10 studied wild flora genotypes, the G4 one has the largest crown diameter (7.9 cm), the longest root was found at the genotype G2 (98 cm), which has also the largest root weight (1410 g); the number of ramifications has varied within narrow limits.

In what the stem characteristics concern, the G3 genotype has been the tallest (112 cm) and the G1 genotype has had the biggest number of fruits per plant (117).

Key words: *Gentiana lutea* L. genotypes, biometric determinations, crown diameter, longest root, root weight, number of ramifications

Analysis of volatile compounds from flowers and leaves of *Gentia lutea* L.

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Abstract

Gentiana L. species are distributed in the North hemisphere, in Europe, Asia, North America, and in South America they occur in the Andes. In Europe, 29 species occur and are classified into six sections, determined by their morphological and physiological characteristics (Tutin, 1972); some of them are distributed in the mountainous part of Romania.

We were also interested in the identification of the components of the volatile oil, for the *Gentiana lutea* L. from the Retezat Mountains, Romania. The analysis of the subterraneous organs of the plants from the *Gentiana lutea* L. resulted in finding many compounds, belonging to different chemical classes. It can be seen that a large proportion of the oil from subterraneous organs is formed by monoterpenic hydrocarbonates, gentiopicrina, gentizina, gentinina and gentianina.

Key words: *Gentiana lutea* L., volatile oils, gas-chromatograms analysis.