

**ASPECTS REGARDING THE METHOD OF VALORIFICATION
OF PLANTS FROM GLADIOLUS AND CROCOSMIA GENUS**

**ASPECTE PRIVIND MODALITĂȚILE DE VALORIFICARE A
PLANTELOR DIN GENURILE *GLADIOLUS* ȘI *CROCOSMIA***

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Abstract. *The Gladiolus and Crocosmia genus include the flowering species with a special ornamental potential. The high ecological plasticity, the long period of decoration and the very varied palette of colors are the characteristics that make them easy to cultivate, to associate with other species and to maintain. This paper presents some possibilities of using gladiolus and crocosmia flowers in landscaping, as potted plants and in floral art. There are also possibilities to associate these plants with other flower species, in order to obtain a maximum decorative effect for as long as possible. As for growing as potted plants, they offer the possibility of placing them on terraces, open balconies or even in certain areas of the garden. When grown in pots, these plants gain added value through the beauty of the pot in which they are grown. In the floral art, both the gladiolus and crocosmia are suitable for use in bouquets, arrangements (in pots, baskets or decorative boxes) or simply offered, tied with a tape.*

Key words: gladiolus, crocosmia, ornamental value, landscaping, floral art

Rezumat. *Genurile Gladiolus și Crocosmia cuprind specii floricole cu un deosebit potențial ornamental. Plasticitatea ecologică ridicată, perioada lungă de decor și paleta foarte variată de culori sunt caracteristicile care le fac ușor de cultivat, de asociat cu alte specii și de întreținut. În lucrarea de față sunt prezentate câteva posibilități de utilizare a gladiolelor și crocosmiilor în amenajări peisagistice, ca plante la ghiveci și în arta florală. De asemenea, sunt prezentate posibilități de asociere a acestor plante cu alte specii floricole, pentru obținerea unui efect maxim de decor o perioadă cât mai lungă de timp. În ceea ce privește cultivarea ca plante la ghivece, acestea oferă posibilitatea amplasării lor pe terase, balcoane deschise sau chiar în anumite zone din grădina. Atunci când sunt cultivate la ghivece, aceste plante capătă un plus de valoare și prin frumusețea vasului în care sunt cultivate. În arta florală, atât gladiolele, cât și crocosmiile se pretează pentru a fi utilizate în buchete, în aranjamentele (în vase, în coșuri sau cutii decorative) sau oferite simplu, legate cu o panglică.*

Cuvinte cheie: gladiole, crocosmia, valoare ornamentală, peisagistică, artă florală

INTRODUCTION

The *Gladiolus* and *Crocosmia* genus belong to the Iridaceae family and are known for their special decorative qualities and high economic importance due to the large number of plants that are sold as cut flowers and as potted plants. In the

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cut flower industry, species of the genera *Iris*, *Gladiolus* and *Freesia* are of particular importance (Goldblatt *et al.*, 1990). However, species of the genera *Crocus* and *Crocasmia* are also well known as ornamental plants.

The gladiolus, a world-famous flower, is a widespread crop in many geographical areas. As a result, the number of varieties is very large and constantly growing, representing hybrids between different spontaneous species, as well as hybrids of the hybrids obtained later, all under the name of *Gladiolus hybridus*. The European species of gladiolus were cultivated at least 500 years ago, but were first identified in New Forest, Great Britain, in 1855. Trade in these species evolved very rapidly and took place in a very long time (Cantor and Tolety, 2011). The most appreciated and cultivated are red gladiolus, with various shades of orange or purple, then pink, white and yellow gladiolus (Preda, 1978). Thus, the French appreciate unicolored flowers (pure white, red, pink, etc.), while the English appreciate bicolor varieties, such as red with yellow spots, blue spots, etc. Americans cultivate more cultivars with yellow, blue, purple flowers (Cantor and Pop, 2008). In Romania, gladiolus are less common in the decoration of urban green spaces, but are frequently used in the decoration of individual gardens and as cut flowers in summer.

The *Crocasmia* genus occupies an important place in the arrangement of gardens due to the vibrant colors of the flowers in shades of red, scarlet, orange and yellow (Hill and Hill, 2003). The combination of leaves, flowers and fruits of these plants gives a higher value to the gardens. The *Crocasmia* flowers are used in individual gardens, alone or in combination with other flowers specific to the summer-autumn period. It produces flowers with staggered flowering, which will persist for a long time, depending on the conditions of the area.

The gladiolus and *Crocasmia* are plants that can be grown both for cut flowers and for individual gardens landscaping or urban green spaces (Kamo *et al.*, 2005). Most often, they are used in floral art, being highly appreciated, due to the extremely decorative inflorescences, but also to the very varied palette of colors.

The purpose of this paper is to present solutions for ornamental use of gladiolus and *Crocasmia*, as garden plants or for bouquets and arrangements, taking into account the fact that the importance of a flower crop is given by the way it is used.

MATERIAL AND METHOD

The material studied was represented by species and hybrids of *Gladiolus* (*G. byzantinus*, *G. imbricatus*, *G. hybridus*) and *Crocasmia* (*Crocasmia x crocosmiiflora*) in which the possibility of their arrangement, alone or in combination, in landscaping design and compositions was analyzed of floral art.

In most species of the genus *Gladiolus*, the flower stalk, which appears after the last leaf has formed, is unbranched, a feature of the genus (Goldblatt *et al.*, 1998). The height of the flower stalk can vary, depending on the species and variety, between approx 50 and 150 cm. The flower stalks are erect or sloping, starting at the top of the sheath of the last two leaves or just below the base of the spike (Cantor and Tolety, 2011). The inflorescence is a spike, with the flowers arranged unilaterally or bilaterally. The species of spontaneous flora (*G. byzantinus*, *G. imbricatus*), the

number of flowers in inflorescence varies between 6 and 20, and their diameter is 2-4 cm. In contrast, in *G. hybridus* cultivars, the number and size of flowers is much higher (over 20 flowers / inflorescence and a diameter of about 10 cm). The opening of the flowers in the inflorescence is done in stages, starting with the ones at the base, and their development depends on the balance between water, light and temperature (Armitage, 1993).

The *Crocosmia x crocosmiiflora* species quickly forms large, rich leaves. The floral stems are 40-90 cm high and form stems with large, bright, nectar-bearing flowers. Flowering in crocosmia begins in July and ends in October. Also, the fruit is very ornamental and the plants are often left in the garden until late autumn. The color of the fruits varies from green, at first, to brown, in September-October, when they reach maturity (Armitage, 1993).

At the base of the flower compositions in the garden design, especially in the case of the association of the species, certain principles were taken into account, especially the requirements of the plants to the environmental conditions, the life cycle, the flowering period, some morphological characters (color, height, appearance of flowers and inflorescences, etc.). Both, the gladiolus and crocosms are very valuable in such arrangements and can be recommended in groups, rounds, bands, mixed borders or in decorative vessels and solitary specimens (Draghia, 2011; Draghia and Chelariu, 2011).

In the case of compositions with cut flowers, bouquets and arrangements have been proposed that have respected the principles of floral art (unity, harmony, proportion, balance, symmetry and asymmetry, quantity and volume) (Buta and Cantor, 2015).

RESULTS AND DISCUSSIONS

In **landscaping**, rustic or modern, gladiolus and crocosmia are used from late spring to early autumn, depending on the flowering period. In general, gladiolus provide decoration from May to June (*G. byzantinus*, *G. imbricatus*) until late summer (*G. hybridus*), and the crocosmia during all summer and early autumn. The maximum aesthetic effect is obtained through color and wear, especially when they are associated with other plants, such as *Dahlia hybrida*, *Helenium hybrida*, *Aster novi-belgii*, *Miscanthus sinensis*, *Ricinus communis*, *Salvia microphylla*, *Calendula officinalis*, *Canna indica*, *Kniphofia uvaria* etc. (fig. 1 a and b).



a.



b.

Fig. 1 Rustic arrangements: **a.** crocosmia, dahlia, castor bean, marigold and aster; **b.** crocosmia, dahlia, cane, knifofia

(<https://www.gardenia.net/garden/a-hot-summer-border-idea-with-dahlias-crocsmia-and-aster>; <https://www.gardenia.net/garden/A-Brilliant-Summer-Border-Idea-with-Crocsmia-Agapanthus-Grasses>)

An elegant border can be made of crocosmia or gladiolus plants and decorative herbs. For example, the elegance of the arrangement can be accentuated by *Stipa gigantea* and the delicate *Stipa tenuissima*, which fit perfectly and highlight the carmine-red flowers of crocosmia (fig. 2.a) or those in shades of purple-purple of gladiolus and decorative onions (fig. 2.b). A tall mixed border, made up of flowering species with summer blooms, serves to magnify the mystery of a more secluded area of the garden. Such an effect can be created with *Crocasmia*, *Dahlia* and *Canna*. The flowers of *Dahlia* has orange, vibrant flowers with purple-green leaves. The *Canna indica* architecture participates in this visual feast, to complete the picture given by the imposing, purple leaves (fig. 2.c).



Fig. 2 Mixed borders: **a.** crocosmia and stipa; **b.** crocosmia and dahlia; **c.** gladiolus and ornamental onions

(<https://www.gardenia.net/garden/a-perfect-summer-border-with-grasses-and-crocasmia>;
<https://www.gardenia.net/garden/a-charming-duo>; <https://www.gardenia.net/garden/A-Brilliant-Summer-Border-Idea-with-Crocasmia-Dahlia-Canna-Lilies>)

For a bold contrast, *Gladiolus byzantinus* can be used with *Delphinium* (fig. 3a). A more temperate color combination can be made from *Gladiolus hybridus* in shades of pink-red and *Euphorbia marginata* (fig. 3b). A charming garden corner, made from early-flowering *Gladiolus hybridus* cultivars and brightly colored flowers, in combination with *Eremurus robustus*, provides decoration for up to four weeks and is very easily visible in the garden (fig. 3c).



Fig. 3 Arrangements in the form of groups: **a.** gladiolus and dolphin; **b.** gladiolus and euphorbia; **c.** gladiolus and eremurus

(<https://www.telegraph.co.uk/gardening/gardenstovisit/6328463/A-Dutch-garden-made-in-heaven.html>; <https://www.gardenia.net/garden/a-charming-duo>;
<https://www.gardenia.net/garden/a-lovely-hedge-idea-with-sword-lilies-and-foxtail-lilies>)

The **decorative pots** are used to decorate terraces, balconies, gardens and paved areas. The species suitable for such uses must be of low / medium height,

with spectacular foliage and inflorescences (Draghia, 2011; Draghia and Chelariu, 2011). The crocosmia and gladiolus can be used as potted plants. In this case, they are used for the summer decoration of small gardens, with the realization of unicolor compositions or in strong contrasts. A combination of crocosmia and cup in pots, on terraces or in gardens, offers a long flowering period (fig. 4a). Also, a very beautiful combination, in shades of yellow, can be made of gladiolus and yellow crocosmia, together with the calla (*Zantedeschia eliotiana*) (fig. 4b). The high-waisted cultivars of *Gladiolus hybridus*, arranged in large ceramic pots, can elegantly border a concrete alley (fig. 4c). Both, the crocosmia and gladiolus provide decoration as potted plants and alone, possibly with only a few plants with flowing stems (hedera, sedum) at the base of the pot (fig. 4d-f).



a.



b.



c.



d.



e.



f.

Fig. 4 Valorization of gladiolus and crocosmia as potted plants: **a.** crocosmia and canna; **b.** crocosmia, gladiolus and calla; **c.** gladiolus; **d.** crocosmia and ivy; **e.** crocosmia and sedum; **f.** gladiolus and hedera

(<https://www.living4media.com/images/12175902-Tropical-terrace-with-Crocosmia-Emily-McKenzie-Canna-indica>; <https://www.florissa.com/summer-cut-flowers-gladiolus/>; <https://ro.pinterest.com/pin/245868460880425341/>; <https://www.easytogrowbulbs.com/collections/yellow/products>; <https://ro.pinterest.com/pin/743516219708631839/>; <https://ro.pinterest.com/>)

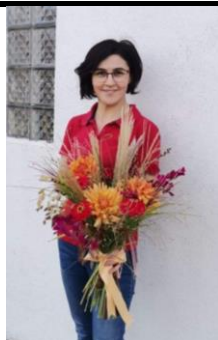
As **cut flowers**, gladiolus have been appreciated since ancient times, impressing with their chromaticity, the splendid shades in each bouquet, but also with their resistance. The flowers arranged vertically enhance the elegance of each bouquet in which they are found. Due to the height, but also the elegance of the floral stem, they are most often used in making bouquets on height. *G. byzantinus*, due to its early flowering, is used in combination with other seasonal

flowering species such as: *Iris*, *Leucanthemum*, *Papaver*, *Paeonia*, *Allium*, *Hemerocallis*. Due to the vibrant color and tenderness of the flowers, it can be used in bouquets with other species in contrasting colors such as yellow, coral, white or in harmony with other shades and shades of pink (fig. 5a-f).



Fig. 5 The recovery of cut flowers of *Gladiolus byzantinus* in bouquets and arrangements (original): a. with *Allium*, *Hemerocallis* and *Rosa*; b) with *Iris* and *Allium*; c. and d. with *Papaver* and *Leucanthemum vulgare*; e. with *Papaver*; f. with *Papaver* and *Paeonia*.

In the last years, the crocosmia has become very popular and used in making bouquets and arrangements. Alone or in combination with other flowering species, the crocosmia species is highlighted in bouquets by shape, color, texture and longevity. To be highlighted, it is used in contrasting color combinations due to the flowers in pronounced shades of red, orange or yellow. The crocosmia, as a cut flower, can be harmonized in a very wide range of bouquets (fig. 6a-i), along with species (*Dalia*, *Zinnia*, *Amaranthus*, *Celosia*, *Hemerocallis*, ornamental herbs, etc.) or more elegant species (*Hydrangea*, *Rosa*, *Eustoma*, etc.). The crocosmia can be used to make arrangements in conventional decorative vessels (boxes and decorative vessels) (fig. 6h, g) or less conventional (ornamental pumpkin) (fig. 6g). A special effect in bouquets and arrangements is given by the stems with crocosmia fruits, through the rounded shapes of the green, brown or even rusty capsules.



a.



b.



c.



d.



e.



f.



g.



h.



i.

Fig. 6 Capitalization of crocosmia in bouquets and arrangements: original (a-g);
pinterest.com (h-i)

CONCLUSIONS

1. The gladiolus and crocosmia has special decorative qualities and can be used in landscaping or as cut flowers, alone or in combination with other flower species.

2. In decoration of the gardens, it offers a wide range of colors and a long period of decoration in different types of arrangements (groups, mixed borders, round, bands, solitary specimens, etc.).

3. Grown in decorative pots, it ensures the decoration of terraces, balconies or paved areas in garden.

4. The cut flowers of gladiolus and crocosmia impress with their elegance, shape and color and have the advantage of good storage resistance.

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