

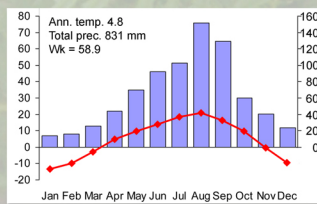
Daylilies in the Russian Far East flora as a source of new cultivars



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Daylilies are one of the most popular cultures in the gardens in countries of temperate climate. They are used for landscaping and green design much more often than for cutting and for growing in containers. Such a popularity is explained by very high ecological tolerance, decorativity and by economical effectiveness of their use in landscaping.



Vladivostok city is situated at the southern edge of the Russian Far East on the coast of the Sea of Japan.

The climate can be characterized as monsoon, cool temperate, maritime, humid, with well expressed cold winters and warm summers. Sum of temperatures over +5°C is 2643, over +10°C - 2239, over +15°C - 1501 and over +20°C - 386. Vegetative temperatures (over + 5°C) are established in April and hold until October. Natural vegetation in the area is represented by temperate mixed deciduous-coniferous forests



In Vladivostok Botanical Garden-Institute first cultivars of Daylilies were introduced in the beginning of 1970-es with the receiving of 8 sorts of Turchinskaya from collection of Sukhumi Botanical Garden. At present, the Vladivostok collection accounts 8 species and 68 sorts of deciduous summergreen representatives of Hemerocallis.

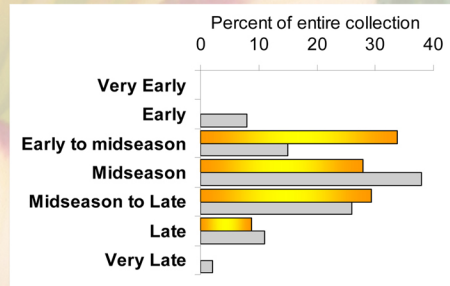
On the Russian Far East as well as in entire Russia the interest to the daylilies drastically increased at the late 1980-ies. Daylily cultivars of majorly American and European selections have appeared in the collections of the state as well as in private Botanical Gardens.

The native flora of the Russian Far East includes 6 species of daylilies: *Hemerocallis coreana* Nakai., *H. esculenta* Koidz., *H. lilio-asphodelus* L., *H. middendorffii* Trautv. et Mey., *H. minor* Mill, *H. yezoensis* Hara (Barkalov 1987). Most decorative *H. coreana*, *H. middendorffii* and *H. minor* are widely used in the Far Eastern gardening.

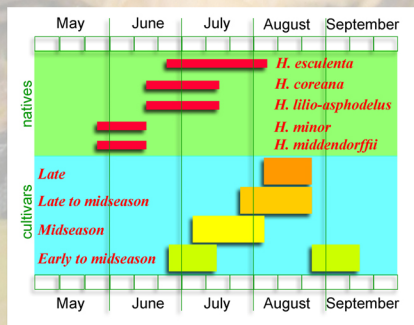
A comparison of blooming periods of cultivars and representatives of the native Russian Far Eastern flora shows that the use of early-blooming native species in the green design directly or through their hybridization with cultivars will significantly

prolong a total period of daylily blooming in climatic conditions of the Russian Far East.

A search in the natural ecosystems has brought a number of interesting forms originated from both intra-specific variance and from hybridization between early blooming species of *H. middendorffii*, *H. minor* and *H. coreana*.



Sorts of Hemerocallis are classified by time of blooming into 7 categories as shown on Fig. Characteristic feature of the Russian collections (grey bars on figure) is a predominance of the Midseason sorts in a wide spectrum of sorts ranging from Early to Very Late. Collection of Vladivostok Botanical Garden-Institute (orange-yellow bars) includes chiefly Midseason sorts with Early sorts very poorly represented.



One of the most promising for hybridization miniature form of *H. minor* was found in the islands of the Peter the Great Bay (Sea of Japan). Its leaves reach a height of 15 cm, and stems - of 18-20 cm. Inflorescence comprises 4-7 flowers. It begins blooming at the first days of June and continues until the mid-August with two well expressed periods of mass blooming. Seeds are well formed but not numerous. The small size of plants is kept when growing in garden condition with high soil fertility and no shortage of moisture.

Among numerous forms of *H. middendorffii* plants with larger than normal flowers were selected for hybridization. They are characterized by blooming time in middle to late May, 34-39 days after the appearance of foliage.

A form of *H. coreana* that have an abundant, massive and continuous blooming is distinguished by very short leaves if compared with the length of the flowering stems. This makes the dense plantation of this daylily very beautiful in blooming time and also makes it comparable with the other cultivars with a later time of blooming.

All selected forms were bred in amounts enough for the assessments of their capability for hybridization and for the selection of sorts with new decorative attributes as well as with more continuous period of blooming.

Hemerocallis middendorffii

This species in climatic conditions of Vladivostok starts blooming first among other daylilies. Color of flowers varies between bright yellow and bright orange. Fragrant. Flowering daily. It has abundant flowers even in dark shadow.



Hemerocallis esculenta

The plants of this species are very tolerant to wind and very dry substrates. Flowers are big, not fragrant and very variable in color: from lemon-yellow to light-orange.



Hemerocallis coreana

This species around Vladivostok varies in color and shape of flowers, which may be lemon-yellow to orange with petals with entire or fringed edge. One of the good features of plants is that stems are much bigger than foliage.



Hemerocallis minor

This species demonstrates a great variation neither in flower shape nor in colors of flowers that are always lemon-yellow. This picture shows rare miniature form of wild plant with very narrow leaves.

