

'Andromeda' and 'Golden Torch' Heliconias

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The genus *Heliconia* (*Heliconiaceae*) includes a number of species showing potential as commercial cut flower crops (1). *H. Psittacorum* and some of its hybrids (e.g., 'Golden Torch') are particularly promising because of their attractive flowers, long straight clean peduncles, prolific year round flower production, excellent postharvest characteristics, and few pest problems. The inflorescences can be used in a manner similar to those of bird-of-paradise (*Strelitzia reginae*), but they are less massive and are therefore, easily incorporated into smaller floral arrangements.

Origin

Heliconia psittacorum is widespread throughout northern South America, and many forms exhibiting a wide range of flower characteristics exist. 'Andromeda' is a clone that shows particular promise as a commercial cut flower. The precise origin of both 'Andromeda' and 'Golden Torch' is not known, but 'Golden Torch' is believed to be one of several known hybrids of *H. latispatha* Benth. and *H. psittacorum* L.f. that originated either in Guyana or Trinidad, but has since been distributed throughout the Caribbean region and perhaps to Hawaii. Both of these plants were obtained from Andromeda Gardens, a private garden in Barbados, W.I., in 1978.

Description

Both 'Andromeda' and 'Golden Torch' heliconias range in height from 0.8 to 1.8 m, depending on plant density, light, fertility levels, and irrigation intensity. Plant height increases under crowded, well-watered, high fertility situations, or under low light intensities. Foliage of 'Andromeda' is dark, glossy green with individual leaf lamina averaging 60-70 cm in length and 10-12 cm in width; leaves of 'Golden Torch' are a lighter, less

glossy shade of green and are about the same length as those of 'Andromeda', but average slightly wider (14-15 cm). Four or 5 leaves are normally produced per shoot followed by a terminal inflorescence for both cultivars. Inflorescences of these heliconias typically have 3 or 4 bracts, the 1st being substantially larger than the others. Bracts of 'Golden Torch' average slightly larger than those of 'Andromeda' (15-20 cm vs. 12-15 cm) and are deeper than wide, whereas the opposite is true for *H. psittacorum* varieties. Florets are not readily visible on young inflorescences of 'Golden Torch' as they are on *H. psittacorum* varieties. Peduncles vary considerably in length, depending on flower age and the environment in which the plants are growing. Those of 'Andromeda' average 35-50 cm while those of 'Golden Torch' are usually about 10 cm shorter.

Bract color in 'Andromeda' is red, fading to light orange at the base (Fig. 1). The lower half of each bract, as well as the upper 2-3 cm of the peduncle, is covered with a waxy white bloom. Florets are orange with black tips and the main axis of the inflorescence also is orange in this cultivar.

The entire inflorescence of 'Golden Torch' is uniformly yellow-orange in color (Fig 2). Flowers of this hybrid are also male-sterile with no pollen produced.

Performance. 'Andromeda' and 'Golden Torch' heliconias have been evaluated outdoors in raised ground beds containing a well-drained peat, perlite, bark, and sand medium under varying light intensities and fertility levels at the Fort Lauderdale Research and Education Center from 1978 to 1983.

Flower production for both heliconias grown outdoors in southeastern Florida generally begins in April or May unless the previous winter was exceptionally cold. Temperatures below 10°C cause injury to *H. psittacorum* and its hybrids, but above this temperature, growth and flowering are continuous. The minimum temperature for optimum heliconia production is 21°, but improved growth and production occur at temperatures up to about 35°. Under typical south Florida summer growing conditions, a harvestable flower is produced 8-9 weeks (9-10 weeks for 'Golden Torch') after emergence of a shoot from the rhizomes.

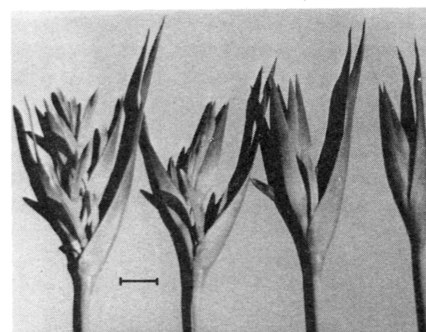


Fig. 1. Inflorescences of 'Andromeda' heliconia showing various stages of maturity. Horizontal bar represents a length of cm.

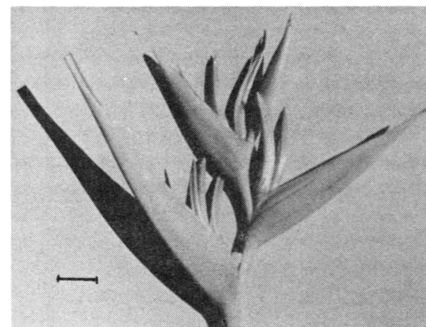


Fig 2. Inflorescence of 'Golden Torch' heliconia. Horizontal bar represents a length of 2 cm.

Propagation of these heliconias is by division of the rhizome or by tissue culture. Rate of plant spread is rapid with actively growing shoot densities at any one time exceeding 700/m² in 2nd year beds where only flower-bearing stalks were removed.

In southeastern Florida, outdoor production for both cultivars generally peaks from July through September, declining in October and November and ceasing altogether once night temperatures drop below 10°C. 'Andromeda' flower production in 1st year beds which had not reached their maximum densities averaged 130 flowers/m²/yr in southeastern Florida under full sun and high fertility (650 g N/m²/yr), whereas crowded 2nd year beds produced 160 flowers/m²/yr under similar conditions (Table 1). Growing plants under 63% shade reduced flower production to about 35 flowers/m²/yr in 1st year beds and 65-75 flowers/m²/yr in 2nd year beds. Light intensity within the beds seems to be the major limiting factor in flower production for both of these heliconias, and may be reduced either by external factors or by mutual shading of the heliconia plants themselves in very dense beds.

Outdoor production in established 1.5 year old beds of 'Golden Torch' averaged 84 flowers/m²/yr in southeastern Florida under full sun and high fertility (650 g N/m²/yr). Growing plants under 63% shade reduced flower production by about 50%.

'Andromeda' and 'Golden Torch' heliconia, can be produced in heated greenhouses throughout the year, since photoperiod has no apparent effect on growth or flowering. Flower production of 'Andromeda' in a Gainesville, Fla. greenhouse was reduced, however, from December through April when

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Table 1. Effects of light intensity and fertilization rate on production, size, and postharvest life of *H. psittacorum* 'Andromeda' flowers grown outdoors in southeastern Florida.

Light intensity	Fertilization rate (g N/m ² /yr)	Bract length ^z (cm)	Peduncle length ^z (cm)	Total height ^z (cm)	No. of flowers/m ² (1981)	No. of flowers/m ² (1982)	Postharvest life ^a (days)
63% shade	125	13.4	36.1	168.1	34.1	77.6	15.5
	400	13.7	35.6	178.5	31.4	70.9	15.2
	650	14.2	32.2	175.4	35.9	65.0	14.6
Full sun	125	12.5	39.1	159.8	96.9	118.8	14.4
	400	13.6	43.8	181.2	106.7	161.9	14.9
	650	13.1	39.8	174.2	130.5	161.9	14.4

^aMeasurements were made on plants from 2nd year beds (1982) which had achieved maximum density.

temperatures were maintained between 16° and 25°C. A 2nd year bed in this greenhouse produced about 175 flowers/m²/yr.

Postharvest life of cut inflorescences for both cultivars placed in deionized water averaged 14–17 days at 23°C. Insect and disease pests of these heliconias are few. Aphids

often colonize the nectar laden flowers, but these are controlled easily with common insecticides. Thrips and mites have been reported on 'Andromeda' under greenhouse conditions but have never been observed in outdoor beds in southern Florida. Nematodes can cause damage of some varieties of *H.*

psittacorum, but the relative susceptibilities of 'Andromeda' and 'Golden Torch' to nematodes is not known. Minor flower lesions associated with *Helminthosporium* sp. sometimes occur on 'Golden Torch' flowers, but have never been observed on 'Andromeda'. Production and postharvest culture of this crop is described elsewhere (2).

Availability

Information regarding the availability of 'Andromeda' and 'Golden Torch' heliconias may be obtained from the authors.

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'Prairie Lace' Crapemyrtle

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'Prairie Lace' Crapemyrtle, *Lagerstroemia indica* L., is a compact, upright, semi-dwarf shrub which may reach 1.2 to 2 m in height. Leaves are smaller and thicker than the species average and are very dark green. Inflorescences are 12 to 25 cm tall and 8 to 12 cm wide. Individual petals are medium pink bordered by pure white. 'Prairie Lace' is cold hardy to –20°C, and is very resistant to drought and powdery mildew.

Origin

'Prairie Lace' was selected from a population derived from about 4000 seeds collected from 16 seedling parents and treated with a 4% solution of ethylmethane sulfonate (EMS) for one hour in Feb. 1978 (1).

The treated seeds were planted in flats in the greenhouse. After the seed germinated, powdery mildew was introduced from susceptible seedlings in large containers. About 1200 seedlings showed resistance to mildew and were planted in the field on 25 Apr. for further evaluation. 'Prairie Lace' was among 60 seedlings selected for good form and flowering characteristics. 'Prairie Lace' is probably a mutant arising from the EMS

treatment. EMS frequently induces sterility, and these mutants often have thicker than normal leaves and variegated flowers, with an occasional flower that is a solid color among the predominantly variegated flowers (1). the name 'Prairie Lace' was selected to reflect both the area of origin and the lacy character of the flowers.

Description

'Prairie Lace' is a compact upright but semi-dwarf shrub. Leaves are smaller and thicker than the species average. New leaves emerge wine-red, gradually turning very dark green. Fall foliage color is red to red-orange. Inflorescences are 12 to 25 cm tall and 8 to 2 cm wide. Individual petals are medium pink banded by pure white on the outer margin. stems are upright and moderately stout (Fig. 1).

'Prairie Lace' begins flowering in mid-June and continues through late September. This period is much longer than seen for most seedlings and cultivars in Oklahoma. Flowering continues during droughts and periods of prolonged heat as experienced during 1980 and 1983. Seed set is light, which possibly accounts for the extended flowering. Most other seedlings and cultivars flower early in the summer, set heavy seed crops and then flower sparsely the remainder of the growing season. 'Prairie Lace' has shown consistent resistance to powdery mildew, both in the landscape and under conditions of daily overhead watering in containers. It has with-



Fig. 1. 'Prairie Lace' Crapemyrtle.

stood temperatures of –20°C on 5 occasions with no dieback of the type frequently occurring with many cultivars and seedlings. During the prolonged severe winter of 1980–81, 16 of the original 60 selections from the EMS treated population were killed, the tops of 12 others were killed but re-grew from the root system, 19 were damaged such that new growth began below the old inflorescence but above the soil line. The remaining 13 selections, including 'Prairie Lace', were not damaged. During this same winter, the cultivars 'Peppermint Lace', 'Watermelon Red', 'Near East', 'O-Spring', and 'Ozark Spring' growing in adjacent rows were moderately to severely damaged.

Propagation

Softwood cuttings taken from the original parent during May or early June of 1979, 1980, 1981, and 1982 rooted 100% in a medium of peat and perlite under intermittent

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