

## The Latest from the Midwest on *Cuphea*

Monica Kmetz-González and Claudio C. Pasian

Trials of *Cuphea* species began at The Ohio State University Learning Gardens in 2002. Interest has been increasing in recent years in new *Cuphea* to accompany the marketing of the well-known *Cuphea hyssopifolia* (false Mexican heather) and *Cuphea ignea* (cigar plant).

Our trial was designed to test new germplasm alongside *Cuphea* currently available in the industry. Our goal was to evaluate the accessions for ornamental value, either for use as is, or for possible incorporation into breeding programs at Ohio State University.

We are fortunate to be located adjacent to the Ornamental Plant Germplasm Center (OPGC). Vegetatively propagated germplasm was obtained from the OPGC in cutting form in February 2002.

Seeded accessions were obtained from the North Central Regional Plant Introduction Station (NCRPIS), USDA / ARS, Ames, Iowa, in January 2002. The majority of the industry entries were provided by Possum Run Greenhouses, Inc., Bellville, Ohio, and Timbuk Farms, Inc., Granville, Ohio.

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Monica Kmetz-González, Annuals Trials Manager, The Ohio State University, Columbus, Ohio; Claudio C. Pasian, Associate Professor and Extension Specialist, Ohio State University Extension.

### The 2002 Trial

The 2002 Trial began in May and continued through November. We evaluated 53 different *Cuphea* taxa comprised of 25 different species. Plants were grown in Ohio State's Horticulture and Crop Science greenhouses and outplanted in mid-May to a full-sun location in the raised-bed portion of the trial area.

Evaluations were performed on a monthly basis, with the main season evaluation occurring at the end of August. Plants were left in-ground through November to evaluate fall flowering and plant cold hardiness. The top 14 selections of 2002 were the basis of the 2003 trial, the results of which we are presenting here.

### The 2003 Trial

Stock plants of the 2002 selections were overwintered in the greenhouse. Vegetative cuttings were taken on March 4 and grown to a 6" pot size. Plants were transplanted to raised beds on May 19.

Watering was provided as needed using an automatic overhead watering system. Fertilization at 200 ppm N of a 20-10-20 fertilizer was applied using Dosatron at time of transplant and then monthly until mid August. No mulch was used.

## Weather

Summer 2003 was unusually cool and wet for the central Ohio area. The first month post-planting was cool and moist, and plants exhibited minimal growth. This was followed by two weeks of oppressive heat and dry conditions. The rest of the summer had cooler than average temperatures and above-average rainfall.

## Evaluations

Due to the slow start, no June evaluation was performed. Subsequent evaluations took place mid-month in July, August, and September. The plants were evaluated on a 1 to 5 basis, with 1 = poor and 5 = excellent. Plants were evaluated for the following characteristics: Flower number,

flower quality, foliage (plant habit and vegetative quality), and overall rating. The overall rating took all factors, including plant uniformity, into consideration. Final plant height and diameter were recorded at the end of the season in mid-September.

## Results

Most of the selections re-screened this year performed in a similar manner to 2002. Table 1 lists average plant height, diameter, and plant source.

Table 2 provides the quantitative results of the evaluations performed mid-month in July, August, and September. The results are ranked in descending order based on the Overall September rating. These results, complete with photos, can also be

Cuphea Source	Species	Cultivar/P.I. No.	Measured 9/16/03	Average Diameter
			No. of Ft. Height	
Ball Floraplant (Timbuk Farms)	<i>x purpurea</i>	Firecracker	1.3	2.6
Select Seed	<i>ignea</i>	David Verity	2.7	2.6
OPGC*	hybrid	Ames 22422	1.4	2.1
OPGC	<i>cyanea</i>	Ames 4946***	1.7	2.5
OPGC (Possum Run Grnhse.)	<i>hyssopifolia</i>	Allyson	0.6	2.1
OPGC	sp.	Ames 23677	0.6	2.7
USDA/ ARS-AMES**	<i>varia</i>	Pl 607939	1.2	1.4
OPGC	hybrid	Ames 22423	1.5	2.6
OPGC (Possum Run Grnhse.)	<i>ignea</i>		0.8	1.5
Ball Floraplant (Timbuk Farms)	hybrida	Purple Trailing	0.7	1.9
OPGC	hybrid	Ames 22287^Starfire	2.5	2.7
OPGC	<i>micropetala</i>	Ames 26109	3.1	3.0
OPGC	<i>x purpurea</i>	Ames 26110 Georgia Scarlet	1.5	1.9
USDA/ ARS-Ames**	<i>palustris</i>	Ames 17817	0.9	3.3

\* OPGC — Ornamental Plant Germplasm Center, Columbus, Ohio  
 \*\* USDA/ ARS, NCRPIS — North Central Regional Plant Introduction Station, Ames, Iowa  
 \*\*\* Two died.

**Table 2. Ohio State 2003 *Cuphea* Species Trial\***

Evaluation Results		Rating 1- 5 scale (1 = poor, 5 = excellent)					
		JULY**	AUG.**	SEPT.			
		July 17	Aug 14	Sept 18	Sept 18	Sept 18	Sept 18
Cuphea Species	Cultivar/P.I. No.	Overall	Overall	Flower No.	Flower Quality	Foliage	Overall
<i>x purpurea</i>	Firecracker	3.8	4.3	4.5	5.0	4.0	4.8
<i>ignea</i>	David Verity	5.0	5.0	4.3	4.0	4.3	4.4
hybrid	Ames 22422	2.8	3.5	3.8	4.0	3.0	3.8
<i>cyanea</i>	Ames 4946	3.8	3.5	3.0	3.5	2.5	3.3
<i>hyssopifolia</i>	Allyson	4.5	4.5	2.5	2.8	4.5	3.0
sp.	Ames 23677	4.5	4.3	3.0	2.8	3.3	3.0
<i>varia</i>	PI 607939	4.5	4.0	3.0	2.0	3.0	3.0
hybrid	Ames 22423	2.8	3.5	3.5	3.8	2.5	3.0
<i>ignea</i>		3.3	4.0	2.0	3.0	2.8	2.8
hybrid	Purple Trailing	3.3	3.0	2.0	3.3	3.8	2.8
hybrid	Ames 22287 Starfire	3.8	4.0	2.0	2.5	3.0	2.5
<i>micropetala</i>	Ames 26109	4.3	3.5	2.0	3.0	2.8	2.5
<i>x purpurea</i>	Ames 26110 Georgia Scarlet	3.8	3.0	3.8	3.5	2.0	2.5
<i>palustris</i>	Ames 17817	2.8	2.5	1.8	2.8	2.8	2.5

\* Table ranked in descending order of Overall rating Sept 18.  
 \*\* Flower number, flower quality, and foliage ratings for July and August can be accessed on the Web at: <http://floriculture.osu.edu>

accessed on our web site at Results which shows all of our other cultivar trials as well. The web address is:

<http://floriculture.osu.edu>.

Here are some qualitative descriptors of the accessions, with the accessions listed in descending order based on the September 2003 Overall rating.

***Cuphea x purpurea*  
'Firecracker'**

"Wow!!" was the immediate response when one member of our evaluation team looked at these flowers. This is one that really attracts people's attention. Beautiful, bright/brilliant flower color — purple with deep rose-red. Flowers are borne on one side of the stem and at tips. Flowered well all season, and numbers increased even more in late summer to fall. Nice for hanging baskets and containers or at the edge of raised beds. Currently available in the industry, from Ball Floraplant.

***C. ignea* 'David Verity'**

Nice! A solid performer. This is just a great plant. Consistent scarlet/orange flowers are a bit larger in size and number than the typical "cigar plant." Dark green foliage. Is taller as well; an upright shrub 2-1/2 to 3 feet tall. Works well in containers as well. This is usually listed as *C. ignea*, but is actually a cross between *C. ignea* and *C. micropetala*. Currently available in the industry. We obtained these as rooted plants from Select Seeds.

***C. hybrid* Ames 22422.**

Nice flowers — deep rose-red petals with purple interior and tube. Flowering

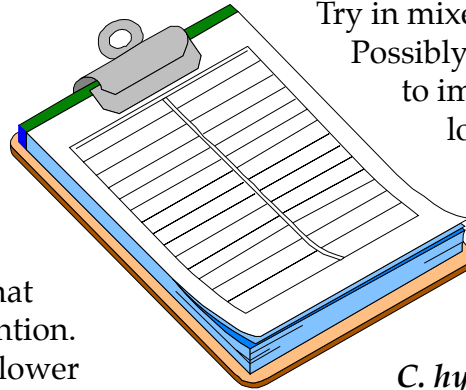
continues late in the season. Mounds to 2 feet.

***C. cyanea* Ames 4946**

Unique flower — pink tubes, yellow at ends, with two maroon petals and protruding red stamens. Nice red-pink pubescence on stems and leaf petioles.

Nice contrast. Vegetatively can be gangly. Try in mixed containers as taller plant.

Possibly try plant growth regulators to improve habit. Watch — we lost a few trial plants to disease as well. The only *Cuphea* in this year's trial to suffer any mortality. Breeding potential.



***C. hyssopifolia* 'Allyson'**

One of the most common *Cuphea* currently on the market, this Mexican heather has been a good performer in four straight years of annual trials here at Ohio State. This purple-flowering "contained shrub" is an excellent form for borders, containers, etc. Flower number does fluctuate throughout the season, and flower numbers were low at the September rating time this year. The nice texture and habit compensate for the flower-number valleys. Currently available in the industry.

***C. sp.* Ames 23677**

A new accession with possibilities. Small but abundant light purple flowers develop consistently throughout the season. Nice spreading low grower, lending itself to multiple uses — containers, hanging baskets, edges of raised beds, and even as a ground cover. In containers, keep feed consistent to maintain better foliage color. Otherwise, this plant requires virtually no maintenance.

***C. varia* PI 607939**

Nicely contrasting flowers and foliage; delicate soft lilac flowers against blue-gray-green foliage. Nice texture — wispy. Upright, controlled habit, lends itself to usefulness in containers by providing a bit of height. Does well as in-ground, too. Does self-seed quite a bit. Of particular note: this was the most cold hardy of all *Cuphea* studied here in 2002. It survived the first few hard freezes we had last November. We will be watching it again this year.

***C. hybrid* Ames 22423**

Very similar to Ames 22422, but flower color is not quite as vivid, and foliage struggles more. Foliage color can appear washed out.

***C. ignea***

“Cigar plant.” The species type widely available on the market, with bright orange tubular flowers darkly tipped. Nice compact habit. Flower numbers were a bit low in the trial here this year. Currently available in the industry.

***C. hybrid* ‘Purple Trailing’**

Spreads well, but flower numbers were very low until late summer to fall. Somewhat diminutive flowers are a deep purple and attractive. Lends itself to hanging basket, container use. Currently available in the industry.

***C. hybrid* Ames 22287 ‘Starfire’**

Released as a hybrid by the USDA in 1995. It is a cross between *C. ignea* and *C. angustifolia*. Flower best described as a pink “cigar plant” flower. Good tough plant that can be used in containers as well as in-ground. This year flower numbers

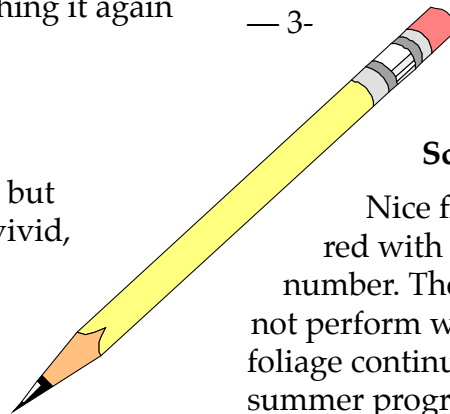
were not high enough to balance out the vegetative growth. Flower numbers were better in 2002. A bee magnet.

***C. micropetala* Ames 26109**

Upright “shrub” with beautiful glossy foliage. Flower tubes are in shades of orange to yellow, few in number main season, but increased in late season. In last year’s trial, most flowers occurred in October.

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Has potential. Is taller 1/2 to 4 feet.



***C. x purpurea* ‘Georgia Scarlet’**

Nice flowers — deep pinkish-red with purple and good flower number. The vegetative portion did not perform well again here this year; the foliage continues to go downhill as the summer progresses. Currently available in the industry.

***C. palustris* Ames 17817**

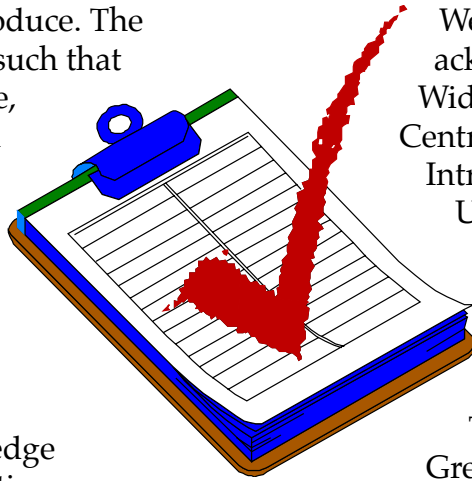
Can function as a groundcover! Very vigorous vegetatively. Flowering is almost exclusively in September and October, with a very low number of small white/ lilac flowers during the main season. In last year’s trial, very profuse flowering commenced in October, producing a carpet of flowers, which was quite beautiful.

**Final Comments**

In the last 10 to 15 years, we have witnessed the advent of numerous new floriculture crops in the market. This tendency towards the new and different has not slowed down, and we expect this trend to continue.

In the hands of a good breeder (or breeding program), *Cuphea* may become an important component of the crop

mix that many growers produce. The variability of this genus is such that some day in the near future, we may see *Cuphea* used in hanging baskets, mixed containers, as bedding plants, or as ground covers.



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## Acknowledgments

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<http://www.opgc.osu.edu/>.

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