

St. Louis Master Gardener Garden Talk

INSIDE THIS ISSUE:

V	
Trees	2
Bug Hotel	4
Rathibida&Rubeckia	5
GHV	6
Book Review	7
Recipes	8
MGs Volunteering	10
MISC	11

Upcoming events:

December 9 — MG Holiday Party

Mg Happy Hour—TBD

December -LOG YOUR HOURS

THANK YOU FOR VOLUNTEERING!





2023 Master Gardener Holiday Party

Volume ?

November 30, 2023

Saturday February 9 noon to 2:00 p.m.

MBG Bayer Center at 4500 Shaw Avenue

Arrive for beverages and time to catch up with gardening friends at 11:45 am. Lunch will be served at 12:15 pm. Enjoy potluck fare as we congratulate the new Master Gardeners from the class of 2023.

Potluck Suggested Dishes:

Appetizer (last name G-R) Side or Salad Dish (last name S-Z) Dessert (last name A-F)

Wear you Master Gardener badge, if you have one, and your Christmas sweater or favorite holiday outfit.



Reforesting STL in the Era of Climate Change by MG Mike McCubbins

With global temperatures rising, and with an inordinate effect upon the Midwest and the St. Louis region –we are on a heat island in a heat belt– St. Louis will need to stem the tide of heat exposure in the coming years to avoid expanding the crisis of heat related medical emergencies and deaths. To do this we'll need more cool roofs, we'll need less parking lots, and we'll need a lot more trees. –Mike McCubbins writes in "Reforesting STL in the Era of Climate Change" on NextSTL.com



(Left) The 6th National Climate Risk Assessment's "Extreme Heat Belt" predictions for 2053 –All of Missouri falls within the belt which is predicted to see At least 1 day a year above 125F (Right) Climate Central's current UHI Urban Heat Island index for STL –7F higher than surrounding areas.



(Left) The relationship of Land Surface Temperature (LST) disparity to tree canopy from TreeEquityScore.org showing St. Louis' 20% tree canopy coverage average. (Right) A comparison of STL's average with that of comparably sized and populated U.S. cities. –St. Louis canopy is low among our peers.

Reforesting STL cont.



(THE VILLE



(Left) Zooming-in on TreeEquityScore's data to compare two census tracts in The Ville and Southampton. Similar canopy coverage doesn't necessarily mean similar temperature disparity. The Ville's vacant grass covered lots store less heat than Southampton's built environment. (Right) A comparison of how materials in an urban environment store and release heat as measured by surface temperature.

Bug Hotel By MG Cynthia Baudendistel



Welcome to the Bug Hotel

Do you love a beautiful butterfly, a busy honeybee, or an adorable ladybug? What about a spider, or a tiny wasp, or a ground beetle with its snapping jaws? They may look scary, but they won't hurt you and are important players in your backyard garden.

An average garden can accommodate more

than 2,000 different species of insect! Only about one to three percent of those insects are pests that are going to eat your veggies or nibble on your prize roses. The rest will help keep troublesome insects in check. So why not welcome them to your garden by building them a bug hotel? Whether it's a modest little inn or the Ritz Carlton of bug domiciles, they

will appreciate your care – and you'll learn a lot about these important insects.

Start by finding a nice level spot near some shrubs, a wall, or another type of protection. Some insects like a cool, damp place and

BY CYNTHIA BAUDENDISTEL

some prefer a warm, sunny room, so place your hotel where it gets some sun and some shade if possible.

Your bug hotel can be as simple or as complex as you'd like. There are hundreds of examples online and most are easy to build. The key is to provide a variety of habitats to



a value y of nabitals to attract a wide range of beneficial insects. You can use salvaged and natural materials such as sticks, straw, pine cones, dead grass, bricks, used pallets, old pieces of wood, and more to create different types of nesting places. So, who will be

checking in to your bug hotel? That depends

on the type of nesting areas you provide. Decaying wood attracts wood-boring beetles and centipedes. Packing one section of your hotel with twigs and small branches will entice other types of beetles. Native solitary bees, which pollinate two to three times better than the non-native honeybee, love hollow stems such as bamboo canes or the dried stems of coneflowers. Ladybugs will also hibernate in hollow stems or leaf litter. And spiders aren't picky – they'll nest in just about any dry nook.

While you're in the garden, consider planting some pollen-rich flowers around your bug hotel so your guests can dine whenever they wish. Stick to single flowers since bees, in particular, have trouble getting to the pollen and nectar in double flowers (those with extra petals). Insects can wake from hibernation very early in the spring, so having something in bloom early, such as crab apples or bluebells, will ensure they can find food. Summer is a banquet for insects but remember that some insects stay up late in the fall, sometimes not hibernating until early winter. Asters and zinnias can provide pollen through the fall.

Building a bug hotel is a great activity for kids and benefits our native flora and fauna. Be creative and have fun with your bug hotel. You'll be surprised how many guests check-in!

Ratibida and Rudbeckia-Other Coneflowers not Echinacea

by Anita Joggerst

A group of blooming native plants in the Asteraceae family are commonly called coneflowers, but they are not the coneflowers in the Echinacea group, although those are also in the Asteraceae family. These blooms are called Mexican Hats, also commonly known as long-headed coneflower, or prairie coneflower (*Ratibida columnifera*); grey-head coneflower (*Ratibida pinnata*); the well-known black-eyed Susan or Sullivant's coneflower, (Rudbeckia fulgidavar. sullivantii); and the Missouri coneflower, commonly referred to as Missouri black-eyed Susan (Rudbeckia missouri-ensis).



The flowers of these natives have a similar look to *Echinacea coneflowers but sport yellow drooping rays encircling a gray or dark brown center seed head, resembling daisy flowers. The center disks of grey-head coneflower and Mexican Hat are conical. The specific epithet (columnifera) refers to the columnar shape of the center disks of Mexican Hat's flowers that resemble small sombreros that explains the plant's common name. The dull-gray central disk of grey-head coneflower exudes a bit of an anise scent. The cones of Echinacea flowers are stiff and prickly, sort of like a hedgehog; the cones of Rudbeckia flowers are softer. These natives have a long blooming period, from*

June through August and often until frost. Sullivant's coneflower and Missouri coneflower make beautiful cut flowers.

Of the Ratibidas, the upper parts of the Mexican hat's flower stems are leafless but the lower stems sport feathery foliage. The pinnata of grey-head coneflower refers to its slightly rough, somewhat feathery, pinnate leaves. Of the Rudbeckias, Sullivant's coneflower has lanceolate, medium green foliage, and Missouri coneflower exhibits hairy, narrow, green leaves, with large basal-like leaves that may stay green throughout the winter.

If low maintenance gardening is a priority, do consider these natives in your landscape. They easily grow in average, dry to medium, well-drained soils in full sun; and the *Ratibidas also tolerate poor, dry soils*. They do well in light shade but bloom more vigorously in full sun. Both Ratibida and Rudbeckia grow one to three feet tall, spread from one to two feet, and can provide erosion control. These thrive in the usual native "welcoming spots," such as meadows, naturalized areas, native plant areas, and prairie sites,



but they also flourish in rock gardens, cottage gardens, sunny borders, and rain gardens. All present a snapshot worthy picture in mass plantings.

Native plants with similar growing conditions of well-draining soil and full sun, complementary colors, and overlapping bloom times make great companion plants for these *Ratibidas and Rud-beckias*. *Native blue star (Amsonia tabernaemontana) blooms in April and May, blue false indigo (Baptisia australis) in May and June, azure sage (Salvia azurea) begins blooming in July, and scarlet royal catchfly (Silene regia) blooms July to September. Summer blooming prairie blazing star (Liatris pycnostachya) features rounded, fluffy, deep rose-purple flower spikes atop three to four feet tall stalks. The flowers of these natives and their companion plants provide nectar for butterflies, hummingbirds, and bees, and the seed heads provide nutrition for birds. These fast growing, adaptable natives captivate our attention with their distinctive appearance and impressive characteristics and make a welcome addition to any Missouri garden.*

GREEN HOUSE VENTURE INSPIRING ELEMENTARY SCHOOL STUDENTS TO BECOME SCIENTISTS WITH HELP FROM MASTER GARDENERS

by Graig Workman

Hundreds of elementary school students in a St. Louis neighborhood are being exposed to new indoor and outdoor plant growth experiments this fall and winter thanks to the introduction of technology-enhanced Discovery Stations custom -designed and built by educators and volunteers with the Green House Venture STEM education program.



Green House Venture provides equipment, curricular materials, teachers and volunteers for eight-week, hands-on science experiments for students in grades 4-6 to take place both indoors and outdoors in subjects ranging from soil and plant chemistry to ecology to the great cycles of nature.

The St. Louis Master Gardener program has supported Green House Venture for the past six years through on-site volunteer service and program collaboration. This STEM education programming takes place in participating school classrooms and at GHV's outdoor Terrace Garden and Embankment Greenway in the Shaw neighborhood.

With winter almost here, Green House Venture has introduced new computer-enhanced plant growing discovery stations – including indoor growth chambers at the participating schools and outdoor gardening cold frames designed and built by educators and students -- that enable educational growing experiments and learning experiences to extend through the coldest months.

Run by an inexpensive, easily programmed Raspberry Pi computer, the indoor growth chambers allow students to control the major requirements for plant growth, including suitable temperature, humidity, and levels of soil moisture and nutrients. The Pi schedules nutrient injections and LED growing lights: blue to enhance

growth and red to initiate flowering. It also controls cameras, allowing observation at a distance and transmission of images. These chambers allow side-by-side comparisons involving soilbased growing, aquaponics, and hydroponics. By changing a single variable for half the plants, students can crowd source results for various species of plants, generating collaborative reports unheard of without such advanced technology.



"The secret to attracting kids' interest in studying plant science is by exposing them to the technologies used in bioscience research," said Don Stump, Green House Venture's Curriculum Director. "We decided to try out new ideas this year in consultation with the Master Gardeners to make our outdoor cold frames more experimental.

Our students helped build the latest cold frames with help from volunteers, and they are now installed at our outdoor Terrace Garden."

Students in the program are now germinating

and growing food plants in indoor computerized growth chambers, then transporting and planting them to the outdoor Terrace Garden.

"They are ex-



perimenting with extending the growing season in cold frames, with varying features such reflective backs, black plastic soil covers to absorb sunlight, and composting towers to act as space heaters and emit sunlight-catching methane gas," Stump says. "We encourage students not only to learn science, but to be scientists by designing experiments in which they can experience the pleasure of cultivating edible plants, observing and measuring them, crunching numbers, graphing outcomes and presenting their results to others."

Craig Workman is President of Workman Communications.

The Layered Garden Book Review by MG Cheryl Erman

Normally I would start a book review with a brief

biography of the author;

however, with this book I

have to start by simply

- saying "BEAUTIFUL
- BOOK!" Now, a bit about
- the author: David Culp,
- along with his partner,
- Michael Alderfer, is the
- "gardenmaker" of the
- gardens at Brandywine
- Cottage in Downingtown,
- Pennsylvania. He is a re-
- nowned author, televi-
- sion personality and hor-

ticultural educator. Mr. Culp wrote this book

- with Adam Levine, also a highly-regarded gar-
- den writer. The photographer for this book is
- Rob Cardillo (see his amazing photographs at
- robcardillo.com). His photographs throughout
- this book are inspiring.
- Culp defines the layered garden as "a design process by which I try to maximize the beauty and interest from each planted space, by combining complementary plants that either grow and bloom together or follow each other in succession." As Master Gardeners, we understand that beyond caretaking, we hope to surround ourselves with outdoor spaces that provide beauty, exercise, creative opportunities, and of course, challenges. David Culp offers a beautiful book of garden design, but also acts as a "horticultural cheerleader" for gardeners, walking us through how he designed the beautiful, layered gardens of Brandywine Cottage, and providing sound advice (even his favorite gardening books). Culp often uses musical metaphors as he relates how over time he layered each garden, building one upon the other. • Culp tells us "Our garden is a living-growing- dying art form, always unfolding, always chang-• ing –an unfinished rhapsody that we continue to edit and refine as the seasons come and go, as
 - plants grow and die, and as new ideas and obsessions are added to the mix."
 - •To layer a garden requires an understanding of •the ways plants grow and change through the



seasons and over the years, providing different textures, colors, and effects and evoking a variety of feelings. *The Layered Garden* can give you ideas on how to recreate (or attempt to) his symphony. He explains that in his classes at Longwood Gardens (and to garden design clients) he stresses the importance of a plan, but a plan as an outline and never a rigidly followed rulebook. Plants, as we know, just don't always follow the rules.

He begins by sharing his gardening background, then walks us through his various Brandywine Cottage gardens, often with photographs of the same area at different times of the year. He suggests working with plants which have a vigorous nature (even if that means they require thinning) but he also incorporates "surprise plantings" to keep audiences engaged. He theorizes that plant shape, more so than color, is what can give gardens drama and punch (but he often adds the color blue, which he says works with both hot colors and cooler pastels). To refine garden design, Culp recommends taking photographs and editing out the color to see how interesting the picture is. His signature plants are organized by seasons, providing us a layered "go by" for color, shape, and peak time, all of which is heightened by the photographs, which truly drive the bulk of the book.

Culp's writing is as layered as his gardens. His book is filled with anecdotes, and every page or two, a wonderful "surprise hint" for us to consider for our own gardens. He leaves us with this thought: As much as the layered garden affords interest throughout the season, "take your breath away moments are what gardening is all about. The more time and thought we put into it, the more layers and nuance we pack into our gardens, the more of these moments we can string together."

Book Review: *The Layered Garden*, David L. Culp

Publication Date: 2012; 312 Pages including Index; Hardcover cost approximately \$22.99

COLD WEATHER DRINK RECIPES

MG JASMINE ZENDERLAND

Hibiscus Rose Warmer

½ Tbsp dried hibiscus
½ Tbsp dried rose petals
l cinnamon stick
Honey to taste



Pour 8 oz of hot water over hibiscus, rose, and cinnamon stick. Steep for about 10 minutes and strain. Stir in honey, and garnish with a cinnamon stick

Optional alcoholic addition: Citrus vodka, elderflower liqueur

Mushroom Hot Chocolate

8 oz milk of your choice
~ I Tbsp cacao or cocoa powder
½ tsp Reishi powder
Sprinkle of cinnamon
Optional spritz of rose hydrosol

Whisk powders into hot milk in a saucepan until completely combined. Add a spritz of rose hydrosol to the finished beverage if desired.

Optional alcoholic additions: Irish cream, cinnamon whiskey, spiced rum

Roasted Dandelion Root Chai

I part roasted dandelion root
I part dried ginger
½ part star anise
½ part cardamom pods
¼ part cloves
¼ part black pepper

Combine I tsp of the blended herbs for every 8 oz of water in a saucepan. Cover and simmer on low for about 20 minutes. Strain and serve with milk and honey or sugar.

Optional alcoholic additions: dark rum, bourbon









What: learn about program changes & new opportunities Guest Speakers: Edward Spevak, Ph.D. St. Louis Zoo Native Plants, Native People, Native Pollinators: An Indigenous Way of Thinking and Acting

Talk: with volunteer site representatives Meet: new Master Gardeners Win: attendance prizes Swap: books and seeds



Master Gardeners Volunteering



MG Judy Morrow at the Garden of Eden



MG and Sunflower Chris Powers at GHV Event



MG Tour of the Arch Grounds



Lots of MGS at the GHV Terrace Gardens



Make a Difference Day



MGs Caitlin Issriggs & John Lorenz St. Louis County Park's Sharon Hoyt and Friends

Send your volunteer photos to Holly Records at recordsh@missouri.edu



University of Missouri Extension 132 E. Monroe Avenue Kirkwood, MO 63122 314-400-2115

St. Louis Master Gardeners **Missouri Botanical Garden** P. O. Box 299 St. Louis, MO 63166

> • • •

LOG YOUR HOURS!



Social Media

The MG Social Media Committee headed by MG Mimi Mooney needs your help. Please follow and like posts on the St. Louis Master Gardener's Instagram and Facebook accounts. If you do not have an account, please consider creating one. The committee posts timely tips, upcoming classes, beautiful photos, and mgs volunteering at various sites throughout the city and county. Please take photos when you are volunteering and share with Holly Records recordsh@missouri.edu.



MG Merchandise

Master Gardener Deonna McAliney is working with a new merchandise vendor to offer a streamlined ordering process. MGs can now order merchandise using a link to the new vendor. The link is



available on www.stlmg.org. If you have any questions please email deonna1115@gmail.com

June Hutson St. Louis Master Gardener PHOTO CONTEST

The 2023 St. Louis MG June Hutson Photo Contest. Each month judges chose the best photo submitted and the winner is awarded a \$50 prize. Each active master gardener can submit 3 photos each month. All photos will be eligible for the \$500 grand prize that will be awarded at the annual meeting on February 10, 2024. Submit your photo using this link https://forms.gle/Km6cPVbAggoVtTkk6

Garden Hotline



Page 10