What's Growing On?

BASTROP COUNTY MASTER GARDENER ASSOCIATION

August 2020

Mantids

By Wizzie Brown

This month I decided to do something a bit different with my article. Hopefully, it will be a nice change of pace for us all. To cover the top-

ic basics, mantids are considered beneficial insects because they are predators. They are known to be highly cannibalistic and generalists, which means that they will eat other mantids and pretty much whatever they can get their raptorial legs on. While they can help reduce garden pests, they may also consume insects that you don't want them to eat (e.g. pollinators). If you have mantids in your garden, try to conserve them, but I would not encourage you to release large numbers of them into your yard.

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UPDATE! Bastrop County Master Gardener 2020 Class has been postponed

Due to coronavirus (COVID-19) and the challenges it poses to Bastrop County, we have decided to postpone the start of the 2020 Master Gardener class till a later date, perhaps as early as February 2021. Once we have a revised plan, we will let you know.

Who are the Bastrop County Master Gardeners?

We are an all-volunteer organization working under the direction of Texas A&M AgriLife Extension. Master Gardeners love gardening and want to share their knowledge with others and promote the love of gardening. What really sets Master Gardeners apart from other home gardeners is their special training in horticulture, and their commitment to sharing their

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Now with that out of the way, I can move on to the *real* topic that I want to explore. What do you call a green to grey to brown colored insect with large eyes and short antennae on a triangular shaped head that has raptorial front legs? Is it a mantid or mantis? Is it preying or praying? I have wondered this many times as I have presented about these insects over the years, so I decided to dig in and try to figure out what is correct and where the names came from.

First stop for me was to look up the etymology (that's E-T-Y-M-O-L-O-G-Y or word origins, and not E-N-T-O-M-O-L-O-G-Y) of mantis. I found the following from the online etymology dictionary:

mantis (n.)

1650s, "type of insect that holds its forelegs in a praying position" (especially the praying mantis, Mantis religiosa), Modern Latin, from Greek mantis, used of some sort of elongated insect with long forelimbs (Theocritus), literally "one who divines, a seer, prophet," from mainesthai "be inspired," related to menos "passion, spirit," from PIE *mnyo-, suffixed form of root men- "to think," with derivatives referring to qualities and states of mind or thought (compare mania and -mancy).

The insects, which live in temperate and tropical regions worldwide, are so called for its way of holding the enlarged forelimbs as if in prayer. The mantis shrimp (by 1853; earlier sea-mantis, 1690s) is so called for its resemblance to the insect.[1]

So that seems to be one vote for mantis instead of mantid. That led me to my next stop which was the Entomological Society of America's (ESA) website, and more specifically, their common name database. ESA has a committee of people who oversee the common names of in-

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knowledge by working through Texas A&M AgriLife Extension to provide horticulture-related information to the community.

The Texas Master Gardener training program is designed to prepare members to volunteer in the community. We offer a minimum of 50 hours of instruction taught by Texas AgriLife Extension specialists and other experts.

Topics Include:

- ❖ Horticulture & Plant Growth
- ❖ Insects & Pest Management
- ❖ Plant Identification
- ❖ Diagnosing & Managing Plant Problems
- ❖ Lawn Care Maintenance & Disease
- ❖ Plant Propagation
- ❖ Water Conservation
- ❖ Herbs & Vegetables
- ❖ Tree Care & Pruning Principles
- ❖ Composting/Organic Horticulture
- ❖ Home Fruit & Nut Production

Volunteering

Master Gardeners volunteer in the community to teach others about horticulture. We follow the research-based recommendations of Texas A&M AgriLife Extension. Members who complete 50 hours of volunteer service in the year after training earn the designation "Texas Master Gardener." We use our title only when engaged in Texas A&M AgriLife Extension activities.

TEXAS A&M AGRILIFE EXTENSION

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sects and other arthropods. These names are considered to be "official" common names within the scientific community, although in scientific terms, you should always go with scientific names and not rely on common names as common names can change drastically depending upon where you live.

After perusing the ESA common name database, I found that *Mantis* was used to refer to a specific genus of Mantodea (the order in which these insects are placed) and that all listed common names consisted of the use of mantid. For example, the commonly named European mantid is *Mantis religiosa* while the commonly named Carolina mantid is *Stagmomantis carolina*. This leads me to the conclusion that **mantid** would be more encompassing of the group than ***Mantis***. If you say *Mantis*, then you would be referring to specific insects within that particular genus and it would be inaccurate to call a Carolina mantid a *Mantis* since it isn't in that genus.[2]

That left me to figure out praying vs. preying. The etymology website refers to praying mantis since the insect has front legs that look as if they are in a position to pray. The ESA common name database does not mention anything about praying or preying mantids, but instead names them individually by their common names (Australian mantid, Chinese mantid, Burmeister mantid, etc.). After much searching, I was unable to come up with any reliable sources referring to preying mantids, but numerous references to praying mantids. I would make the assumption that the etymology of "mantis" at some point caused someone to tack on praying to the name. While preying would technically work for these insects since they are predators and prey on other animals, that does not seem to be the consensus of the experts.

Summing up….it is PRAYING and not preying; MANTID and not mantis (unless you are referring to mantids that are specifically within the genus *Mantis*. Clear as mud?

For more information or help with identification, contact Wizzie Brown, Texas A&M AgriLife Extension Service Program Specialist at 512.854.9600. Check out my blog at www.urban-ipm.blogspot.com

This work is supported by Crops Protection and Pest Management Competitive Grants Program [grant no. 2017-70006-27188 /project accession no. 1013905] from the USDA National Institute of Food and Agriculture.

Endnotes

[1] "Mantis." Online Entomology Dictionary. Accessed July 22, 2020. https://www.etymonline.com/word/mantis
[2] "Common Names of Insects Database." Entomological Society of America. Accessed July 22, 2020. https://www.entsoc.org/common-names

New Website Features

Check out our website, which features project slideshows, a new photo gallery section, and an events calendar to check out upcoming activities. Find news articles and our newsletters. Thanks to Dave Posh for keeping the info timely for us https://txmg.org/bastropcounty/

‘John Fanick’ Phlox

By Debbie Mikel

When we added a new perennial bed to our backyard the plan was to fill it with it with plants that attract hummingbirds and butterflies yet were drought tolerant. I wanted to find different plants to add interest and variety to our backyard, so I went to the Texas Superstar list.* I found a few varieties and headed out to our local Bastrop nursery.

One that we selected was John Fanick Phlox (Phlox paniculata ‘John Fanick’, a herbaceous perennial from the Polemoniaceae family. It was originally discovered growing in San Antonio by horticulturist Greg Grant, who named it after the late San Antonio nurseryman John Fanick. This variety grows well in Texas where other varieties of Phlox do not.

This lovely variety of Phlox has fragrant showy clusters of light pink blossoms with darker pink center perfect to attract hummingbirds. An excellent addition to your bed, it is compact, reaching 1 to 3 feet tall and 1 to 2 feet wide. It blooms from June to September. It is heat tolerant and likes full sun to part shade.

This variety is resistant to powdery mildew as opposed to other varieties. Grows in moderately well -drained soil. It survives in heat, but does need water in extreme drought. It is an ideal plant to use in xeriscaping and is ideal for use as borders or wherever you want to add color and fragrance.

Remove faded flowers to prolong blooming. Cut back in winter for new spring foliage. Plant can be propagated by dividing clumps in spring.

Texas Superstars

Plants selected to have the designation of Texas Superstar are Texas native or adaptable plants (have been proven to grow well in Texas unique growing conditions). Only the best looking, hardy, and most reliable plants are selected. Each plant undergoes several years of research and extensive trials by Texas A&M Agrilife Extension Service. They must show superior performance under Texas tough growing conditions before being added to the list.

By selecting plants that are designated as Texas Superstar, homeowners will find landscape success with beautiful proven Texas tough plants. Even though you may not have the exact same results as the trials, you will have a better chance of a beautiful fragrant blooming garden which attracts, hummingbirds, butterflies and birds.

For more information on Texas Superstars go to https://texassuperstar.com/index.html

Perennials: Growing Roots for Sale

By Howard Nemerov

When we grow perennials for plant sales, we're selling root systems. Well-developed root systems mean fall-planted perennials survive winter and spring plantings survive summer, making for happy customers.

Perennials are a good investment for Master Gardener plant sale growers and customers. Texas A&M calls perennials: "Plants that persist for many growing seasons. Generally, the top portion of the plant dies back each winter and regrows the following spring from the same root system." [1]

Texas A&M Landscape Horticulture professor Dr. William C. Welch notes the many benefits of planting perennials in the landscape.

> *Perennials are versatile plants that offer a variety of creative uses in the garden. Perennials, you will find, offer an infinite number of exciting combinations. From tiny terrace gardens of inner-city apartments, to extensive country estates, perennials can add color, form, and texture, often for many years and with a minimum of maintenance. A look at some landscape possibilities should help to stimulate ideas for specific applications.*[2]

Figure 1—Conoclinium coelestinum, 51 days from cutting

Focusing on the benefit of minimal maintenance, let's look at some Bastrop native perennials, to which I would add ease of propagation, a benefit for plant sale growers and enterprising customers looking to expand their garden with minimal investment. Figure 1 shows Conoclinium coelestinum (Blue Mistflower) ready to be repotted into a #2 pot. Roots are mature enough to have begun circling after 29 days in this 1-quart pot. Also, notice how the plant likes to produce deep roots: Most roots are in the lower half of the root ball. Deep root systems are more heat, drought, and cold tolerant: excellent survival traits for this Bastrop County native. This is why it's best to move Conoclinium coelestinum from rooting medium to 1-quart start pots instead of the more common 3-inch start pots, and then to a #2 nursery pot, instead of the more common #1 sized plant we see on sale.[3] We want to encourage root development, knowing that most roots will be in the bottom half of the pot while providing enough soil volume for a large, healthy root system.

Figure 2 shows cuttings of Tecoma x 'Orange Jubilee' 19 days after sticking fresh cuttings. As with the Mistflower, this was about to be transplanted from rooting mix into a 1-quart start pot, giving it twice as much volume over a start pot to begin developing its Bastrop-hardy root system.

Figure 2—Tecoma x 'Orange Jubilee', 19 days from cutting

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Figure 3—Tecoma x 'Orange Jubilee' flowers

I've been growing this interspecies cross for three years. It appears as root-hardy as Tecoma stans (Yellow Bells or Esperanza), and as drought tolerant, too. The flowers are slightly smaller, but infused with orange and red highlights (Figure 3).

Most perennial cuttings succeed when taken as semi-hardwood. Since new growth begins each spring, this means these cuttings are relatively green, but haven't created a layer of bark, as happens to older Tecoma stans shoots by fall, for example. The ideal cutting's epidermis appears as a mix of green and brown.

Done properly, we can create plenty of sale plants from one healthy, established plant. Returning to Conoclineum coelestinum, it's been growing in the same location four years now. Its root system is established enough to produce more stems than I can keep in bounds, so it gets cut back in late spring whether I plan to propagate it or not. Stems are nearly all green when cut, but the epidermis has hardened, making it easy to prepare viable cuttings.

Figure 4 shows what happens with a Conoclineum coelestinum cutting under ideal conditions (for another article). Adventitious roots have "exploded" from the stem only 17 days after sticking, making this cutting ideal for growing the next generation's plant. This cutting will be planted deep to accommodate these roots, giving it a jump-start in producing a Bastrop-hardy rootball for our next plant sale.

Endnotes

[1] "Annual, Perennial, Biennial?" Texas A&M Horticulture. Accessed June 20, 2020. https://aggie-horticulture.tamu.edu/wildseed/growing/annual.html

[2] Dr. William C. Welch. "Perennial Garden Color." Texas A&M Horticulture. Accessed June 20, 2020. https://aggie-horticulture.tamu.edu/southerngarden/perenngc.html

[3] For refresher on nursery pot sizes, see: Howard Nemerov. "The Pot Problem." Bastrop County Master Gardeners Association newsletter, April 2020, page 2. Accessed June 22, 2020. https://txmg-wpengine.netdna-ssl.com/bastropcounty/files/2020/04/2020-04-Apr.pdf

Figure 4—Conoclinium coelestinum - 17 days from cutting

Installing a Drip Irrigation System

By Carolyn Turman

Would you like to go on vacation but concerned your plants will die in this heat? Then it is time to try your hand at installing a drip irrigation system with a timer. I put this off for many years as the terminology and multiple parts were intimidating. By sharing my experience, I hope you will give it a try because it will not only allow you to go on vacation but will save you money and is better for your plants.

I suggest that you start small. There is a basic decision whether to use a kit or buy individual parts.

Kits are $35-$40. Timers are sold separately. Pros: kits include detailed instructions and all parts go together. Cons: kits may include things that you do not need and connectors may be difficult or not secure enough to remain attached.

Buying individual parts allows you to assemble what you need, but then you must know what you need, choose the correct parts, and they typically don't come with instructions.

I started by purchasing a kit and buying parts as needed. I made many mistakes. Lessons learned included purchasing better connectors that lock rather than those in the kits, hose threads (MHT) are different from pipe threads (MPT) and will not go together, and minimizing connections by looping instead of creating T connections to reduce possible breaking points. Connectors are necessary for right angles and T's. Bending the tubing will cut off the water flow. Although that sounds like just a few mistakes, it took me months and several trips to suppliers to get it right.

On the left are examples of parts that may be in the kit or that are needed to cut tubing or make multiple connections to the water source. There are two types of tubing, one with emitters and another without emitters. If you get tubing with emitters, the distance between the holes and the GPH (Gallons per hour) will vary. Those without emitters allow you to add them. Your soil and the plants will dictate what tubing to purchase. However, the kits come with some standard parts so again, the kit would allow you to experiment and learn what works for you.

When you get ready to install your garden plan there are several connectors available. I found the compression connectors very difficult to use. The barbed connectors were much easier but also come apart much easier. My preference was locking connectors as they are easier to put together and remove, but by locking them they are much less likely to come apart. These would likely need to be purchased separately from the kit.

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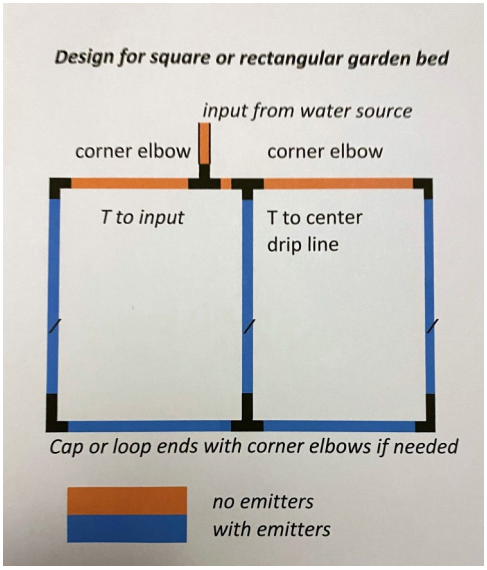
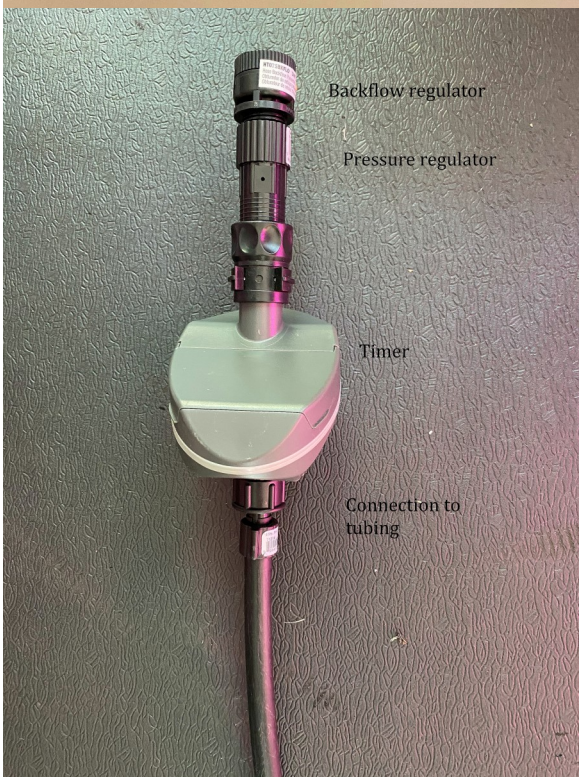
When installing your water source to the tubing, be sure you have a backflow preventor and a pressure regulator. These may be included in the kit. Also decide on a timer and the number of stations. I started with a basic timer and one station.

Below on the left is a basic connection from a water source (faucet) to the irrigation tubing. Use splitters if needed to allow use of a hose or another timer from the same faucet connection. Timers also come with multiple stations that can be set individually. These connectors were all hose threads. The only time you would want pipe threads is if you were connecting to PVC pipe. Also, notice the locking connector between the timer and the tubing.

On the right is a simple plan for a square or rectangular garden bed. I use this type of plan for my vegetable garden beds.





Below on the right is an example of a looping drip line through a flowerbed. The flowers in the example are Physostegia virginiana (Fall Obedient Plant), a Texas native.

Attach either of these to a water source as shown above. A hose can be used from the water source to the garden bed if needed.

Just remember to start small, be sure you purchase hose connections (MHT) unless connecting to PVC pipe, create a plan based on your gardens, and make sure your connections are secure by checking regularly.

For additional information check out:

https://aggie-horticulture.tamu.edu/earthkind/files/2010/10/lowvolume.pdf

Salvia ‘Mystic Spires Blue’—Great Landscape Plant, Illegal to Propagate

By Howard Nemerov

Mystic Spires Blue Salvia (Salvia longispicata x farinacea ‘Mystic Spires Blue’) is a relatively new Texas Superstar® selection from Salvia ‘Indigo Spires’ that features a more compact growth habit and bluer flowers.[1]

This compact, reliably hardy perennial can flower all season in Bastrop County, but mollycoddling ruins its performance (an excellent feature for low-maintenance landscaping). Dr. Brent Pemberton, Texas Superstar Executive Board member and AgriLife Research ornamental horticulturist, reports: “Excess water and fertilizer can result in excessive vegetative growth and lack of flowers.” [2]

Figure 1 — New flowers after transplanting

I planted my #2-sized purchase in late June and pruned off flowers to focus on root development, placing it under 50% shade cloth until acclimated. Despite our first 100° summer heat wave, it produced new flower spikes 2–3 weeks later in mid-July (Figure 1).

All these factors make Salvia ‘Mystic Spires Blue’ a promising landscape plant, and one we should include for plant sales. I plan to stress test its drought tolerance under full sun, and evaluate flower production in part-shade conditions: Testing like this enables us to make appropriate recommendations to customers.

Considering all this, it would be great to propagate this Salvia to make exact clones for comparative cultural analysis. But this is where we run into trouble: While AgriLife doesn’t mention this in their SuperStar® literature, Salvia ‘Mystic Spires Blue’ is a patented plant.

Fortunately, online nurseries include this vital information in their sales literature. For example, Almost Eden includes the patented name “Salvia x 'Balsalmisp' PP 18054” just below the plant name on its sale page.[3]

You can use the “PP 18054” part to locate this plant at the U.S. Patent and Trademark Office.[4] On the main page, in the left column, select “Number Search.” On the resulting search page, enter “PP18054” (no spaces) in the Query box, and click the “search” button (Figure 2).

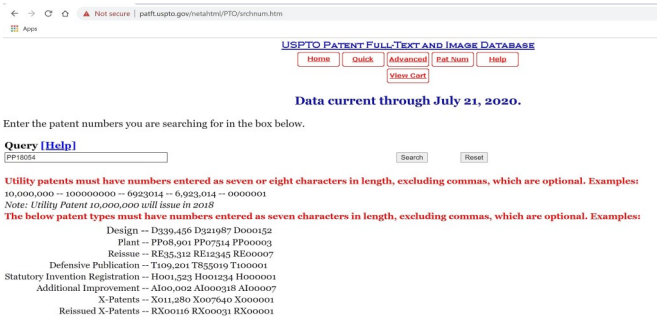


Figure 2 — Patent query page

This accesses the page entitled “Salvia plant named `Balsalmisp`. On the results page, just below the abstract is vital information like the patent owner (Ball Horticultural Company) and the filing date of November 22, 2005 (Figure 3).

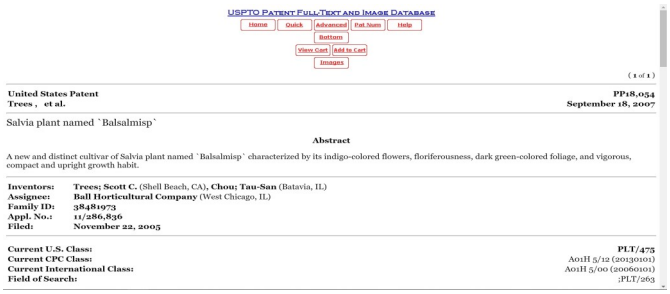


Figure 3 — Salvia 'Mystic Spires Blue' patent page

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This date is important for understanding rights granted by a plant patent:

"A plant patent expires 20 years from the filing date of the patent application. As with utility patents, when the plant patent expires, the subject matter of the patent is in the public domain."[5]

The philosophical principle behind patent law is to afford intellectual property holders an opportunity to "recoup the costs of their innovations (the costs of the education they underwent to prepare them to make the innovations, the outlay for research and development, their opportunity costs, etc.)" In exchange, society benefits from the labor of these innovators.[6]

Personal philosophies about plant patenting aside, as part of Texas A&M AgriLife Extension, the Master Gardener organization represents the A&M University system and must be mindful of how our behavior "supports and assists" Texas A&M's interests, as referenced in Article 1 of our Bylaws.

Bottom line: The Salvia 'Mystic Spires Blue' plant patent expires on November 22, 2025. Until then, we'll need a wholesale source for our Master Gardener plant sales to offer it for sale.

Endnotes

[1] "Mystic Spires Blue Salvia." Texas Superstar® Plants. Accessed July 12, 2020. https://texassuperstar.com/plants/salviamysticspires/index.html

[2] "Mystic Spires Blue Salvia latest Texas Superstar release." AgriLife Today, April 26, 2018. Accessed July 12, 2020. https://agrilifetoday.tamu.edu/2018/04/26/mystic-spires-blue-salvia-latest-texas-superstar-release/

[3] "Mystic Spires Blue Salvia." Almost Eden. Accessed July 12, 2020. https://www.almostedenplants.com/shopping/products/9418-mystic-spires-blue-salvia/

[4] Patent Full-Text Databases. United States Patent and Trademark Office. Accessed July 12, 2020. http://patft.uspto.gov/netahtml/PTO/index.html (Clicking this link doesn't open page, but copying and pasting link in browser works.)

[5] "General Information About 35 U.S.C. 161 Plant Patents: Rights Conveyed by a Plant Patent." United States Patent and Trademark Office. Accessed July 12, 2020. https://www.uspto.gov/patents-getting-started/patent-basics/types-patent-applications/general-information-about-35-usc-161

[6] "Intellectual Property." Stanford Encyclopedia of Philosophy, revised October 10, 2018. Accessed July 12, 2020. https://plato.stanford.edu/entries/intellectual-property/#Pate

Checkered White Butterfly

(Pontia protodice)

There are many beautiful native butterflies that will dance around your garden if you provide nectar. On the left, Checkered White sips on Tithonia rotundifolia (Mexican Sunflower); Verbesina encelioides (Cowpen Daisy) on the right. [Text and pictures by Howard Nemerov]

The Pandemic Garden Project

By Marianna Hobbs

Just like the rest of the world, I found myself wondering what to do when the world shut down. My options were: 1, general gardening; 2, specific gardening; or 3, all things gardening. The lot is an acre and, when I bought it, the rolling hill was approximately 80% forested and easy care. That all changed in 2011 and all of us (the land, the dogs, the wildlife, and me) had to adjust. All of a sudden there was a lot of sun to deal with and about 4 times the work.

The stark realization of having time to do this almost did me in, but I faced it with gritted teeth and my gardening cat Maguu. Land that has been severely burned tends to recover in strange ways. There were fire increaser plants like Sumacs, Black Willows, Cottonwoods, Camphorweed, and Poverty Weed, to name a few, that caused some problems as well as a few solutions. I slowly amended as much as I could and started the dreaded task of cleaning it all up section by section. I over-planted trees in some areas and they are now competing shamelessly for sky.

There was a lot of tree trimming, Greenbrier clearing, Dewberry wrangling, thatching, etc. The first two weeks I went out every day, worked really hard and saw nothing change. The third week—there was a glimmer of hope. The brush pile I created resembles an Olympic sized above ground pool and I filled it completely. I built a trail 9 years ago and enhanced it considerably. I am using leaves and pine needles as “trail base” to enhance the soil and spread the stuff that needed to move and be productive. I discovered an area that looks almost out of place and tropical. I have a native fern that grows freely in that area: Bracken that didn't exist before the fires and is now abundant. I encouraged all the baby trees, wildflowers, and wild grasses and discouraged a couple of Chinaberry trees. I thought my cat was going to bolt and report me for garden cat abuse. He came around.

It was all grand until hard Summer hit and is now requiring some heavy labor again. Thank you wonderful master gardener friends for supplying plants, bunny honey, mulch, friendship, veggies and on and on. You are the greatest!!!