The Trillium

Volume 26, Issue 6
October-November 2016

Piedmont Chapter
North American Rock Garden Society
Chapel Hill, Durham, Raleigh, NC

Lamiacea of Greece (The Mint Family of Greece)

by Eleftherios Dariotis (known locally as Liberto Dario)

Within Greece's extensively varied flora, there is a plant family that is unique, not only for its good looking plant species that vary from the tiniest alpines to extravagant perennials and shrubs but also for its special connection with the Greek people, from antiquity till today.

Lamiaceae counts more than 270 taxa in the Greek territory and many of them are endemic not only to the country, but also to very specific areas or single mountains. That's not surprising, taking into account Greece's very high levels of endemism, a phenomenon caused by many contributing factors, like the extreme variations in the topography of the landscape to its geographical position. Being the connection point of Europe, Asia and Africa, it shares floristic elements and relations to all of these floras. Take for example *Teucrium brevifolium*. This low growing shrub, which gets covered in winter and early spring by millions of light purple classic *Teucrium* flowers, forms part of the maquis vegetation ecoregion in the southern islands of the Aegean, reaching into Attica, the prefecture where Athens is situated. This plant never shows up in big numbers but it certainly does so in northern Africa where its main area of distribution lies, suggesting the link between the African flora and the Aegean.

But there's another 18 *Teucrium* species in the country. Ranging from bigger shrubs to tiny alpines, it's a genus that has a lot of interesting members for any type of gardening situation. *Teucrium flavum*, is another element of the phrygana dwarf shrub zone, its pale yellow flowers set off by Mediterranean evergreens like *Arbutus unedo* and *Schinus terebinthifolius* with which it usually associates. In southern Peloponnese, in the montane zone of Mount Parnonas there is a unique species only found there which clings to the vertical limestone rocks and flowers in May with great abundance. The tiny, round, almost palmate leaves of *T.francisci-werneri*, which look like a Pyrenees species (*T.pyrenaicum*), are the perfect backdrop for its bright pink flowers. On the same crevices, there is another chasmophyte (plants that grow in rock crevices) with small fluffy grey leaves and radiant, almost glowing, lemon yellow flowers, bursting into flower at the same time. *Stachys chrysantha* is a species of another genus which counts numerous members in the country. The combination of those two is really like an artist's palette. Some 200 km away, on the northwestern side of the Peloponnese and on the highest alpine areas of mount Aroania (or Chelmos) that give birth to the River Styx, which in Greek mythology was connecting the living world with the underworld, grows the popular among Lamiaceae alpine growers *Teucrium aroanium* with its oversized flowers and tiny grey leaves. There are more species, like *T.montanum* and *T.chamaedrys*, that reach into the higher areas of greek mountains.

Photograph by Liberto Dario

***Teucrium chamaedrys* is a common element of limestone screes on higher altitudes on central Greece.**

But the Peloponnese is home to many other members of the family and it is where the genus Stachys presents its greatest variation. A very close relative to *S.chrysantha*, which grows on what is known among Greeks as the first leg of the Peloponnese (practically a peninsula), is found on the second leg, the Mani peninsula. The same grey fluffy leaves, the same growing habit on excellent drained limestone chasms especially on Mount Taygetos that borders the peninsula to the north, but on this species (*Stachys candida*) the flowers range from pure white to pure pink.

Photograph by Liberto Dario

Stachys chrysantha, endemic to southern Peloponnese

Not surprisingly, there is another species endemic to the third leg of the Peloponnese. *Stachys canescens*, another rock dweller with deep cypress green leaves and white spikes of flowers with prominent pink and yellow markings, inhabits the middle age castle walls of Methoni and Pylos and nearby rocks.

Photograph by Liberto Dario

***Stachys canescens,* endemic to the third 'leg' of the Peloponnese**.

The *Stachys* story doesn't end here. There are similar *Stachys* endemism cases all over the country, like *S.ionica*, an Ionian exclusive that prefers western exposures on the cliffs of Lefkada and Cefallonia and nearby cliffs of the mainland; *S. parolinii*, a southern Greece endemic that prefers semi shady positions; *S. spreitzenhoferi* ssp. *virella* that limits itself to the castle walls of the of medieval town of Monemvasia;

Photograph by Liberto Dario

***Stachys spreitzenhoferi ssp. Virella,* an endemioc species that is only found on the walls of the medieval town Monemvasia in the Peloponnese.**

S.leucoglossa ssp. *samothracica* inhabits the island of Samothrace in the northern Aegean; various subspecies of *S.swainsonii* , another Greek endemic prefer very particular zones in the mainland or nearby islands; *S.euboica* is an exclusive of the island of Evia; and *S.goulimyi* has only been found in a couple of locations on Mt.Vourinos of central Macedonia, just to name a few.

But there's another genus that is much more connected to the country and its people. The mountain tea as it is commonly called or *Sideritis*, is a popular herbal tea, which the soldiers in ancient Greece drank to acquire stamina of steal (in modern and ancient Greek, 'σίδηρος' or sideros mean iron). In early summer many Greeks hike the Greek mountains to collect the flower spikes, but unfortunately this tradition has led some species of *Sideritis* to the Red Data Book of endangered and threatened species of plants.

The reason is that all six species of the genus grow in very particular areas of the country. Accordingly, since the herbal tea made from each species is different, where you live in Greece defines which species you've

been accustomed to drink. *S.scardica* populates the alpine and pseudoalpine areas of the mountains of the north part of the country. In the Peloponnese the endemic plant is *S.clandestina*. Even in the bigger islands of the East Aegean where their peaks reach more than one thousand meters, like Samos, Ikaria and Chios host *S.sipylea*, a species also to be found in neighboring Turkey.

Evia island in the west Aegean is home to the rare *S.euboea*, only growing on two of the island's mountains. Unfortunately the latter and *S.raeseri* ssp. *attica*, a beautiful small leaved chamaephyte which appears only on a few Attika mountains near Athens, have made their appearance into the Red Data Book as endangered species that are threatened with extinction due to their limited growing range and over collecting.

Photograph by Liberto Dario

***Sideritis euboea* is an endangered species, according to the Red Data Book, with a very limited range**

But there is another Lamiaceae eaten in masses every year throughout the country; well actually just its pollen, so no harm is done. *Thymbra capitata* dots the seaside landscapes by the thousands and you certainly won't miss it if you're in any Greek island from May to July, sometimes with a flowering season extending into August and September. A small rounded shrub with purple flowers that bees love since not much more can be found in flower during the harsh summer months in seaside areas. As a result, Greeks love their 'thymarisio' honey for its distinct spicy flavor that should 'burn your throught' as they claim. In fact the word 'thymari' (thyme) is applied to both this plant and species of the genus Thymus itself, the latter counting 11 hellenic endemics. Along with some other Labiatae like 'faskomilo' (*Salvia fruticosa*), 'throumbi' (*Satureja thymbra*) and of course oregano, lavender (*Lavandula stoechas* is the native here) and rosemary are the native herbs that every Greek village house tends to have in their garden. The genus *Origanum* itself has seven Greek endemics out of he ten species present in the country, with *O.dictamnus*, the dittany of Crete being the most famous.

Photograph by Liberto Dario

***Thymbra capitata*, from which the highly aromatic Greek honey is produced.**

Photograph by Liberto Dario

***Lavandula stoeches* is the commonest greek lavender, here along a road in Rhodes**

Another Mediterranean specialty with its center of radiation in Anatolia but with 11 beautiful members in Greece is *Phlomis*. A sight not easily forgotten is how *P.fruticosa* turns the country gold each spring when covered in bloom. The big success of this plant is due to each farinose foliage, that sheep and goats avoid, making it a major element of plant communities in places where animal herding is extensive. Two similar shrubby species are to be found in Crete; a miniature version of the above with tiny leaves and flowers (*P.lanata*) and the confusingly similar to the common 'ασφάκα' *P.cretica*. But inland mountains host the herbaceous species *P.herba-venti* , *P.russeliana* and *P.samia* which adorn forest edges of evergreen or coniferous forests and are usually summer flowering.

Apart from the common *Salvia fruticosa* mentioned earlier, there is another 20 species of sages that call the country home. *S.fruticosa* tends to grow in company of another similar sage, *S.pomifera* with even more scented

leaves and more colorful flower bracts. They are both to be found along coasts and lower altitudes all over central and southern Greece as well as on many of the islands.

Photograph by Liberto Dario

***Salvia pomifera* refers seaside areas and is ubiquitous in the Aegean Islands.**

But *Salvia* is a genus with extreme variability and so are the 21 species that are found in the country. *S.aethiopis* from the extensive steppes of Macedonia dot the landscape in the summer when the grasses around are turning brown and *S.sclarea* fills forest edges of *Abies cephalonica* or oak forests in the center and north. *S.ringens*, that can create impressive purple blue clouds of flowers, prefers rocky banks and roadside scrub of the inner montane mainland while *S.amplexicaulis, S.virgata* and *S.pratensis*, which have been hybridized into many of the popular hardy garden sages we find in gardens today, call rural and disturbed areas across northern Greece their home. Other popular garden sages are to found in Greece, like the shrubby *S.officinalis* which is particularly abundant on the island of Corfu in the north Ionian sea, the perennials *S.glutinosa, S.napipolia, S.nutans* and *S.verticillata* and the popular winter growing garden annual *S.viridis*. The genus is completed with a couple of endemics that haven't been found in their limited growing areas for years and *S.candidissima* which is the only sage that grows in areas above the tree line in central Greece.

The family is represented by many other genera, numerous *Nepeta, Ballota, Acinos, Satureja, Galeopsis*, and *Marrubium* species as well as some that prefer shadier positions like the ubiquitous *Melittis melissophyllum* in deciduous forests or the multicolored *Scutellaria* spp.

But the star of the Lamiaceae clan, that has hit the news in Greece several times in the past decade, has got to be one of the smallest flowered lamiids in existence. *Micromeria acropolitana*, as its name suggests, is a small plant with tiny parts, that only grows on the small hill of the Acropolis in the center of downtown Athens, looking up to the Parthenon in a sprawling city of 5 million people, ignoring the thousands of tourists walking nearby and the pollution of the city. Much study is needed to examine if *M.acropolitana* is truly a species or a subspecies of another of the dozen *Micromeria* that are indeed quite similar, but this plant is the perfect example to explain the high levels of speciation and endemism that the family of Lamiaceae has gone through in the small but very botanically rich country of Greece.

Photograph by Liberto Dario

***Micromeria graeca*. Micromeria taxa closely resemble one another and are difficult to distinguish.**

Photograph by Liberto Dario

Melittis melissophyllum ssp. albida, a common element in deciduous forests.

Fish Box Troughs for Alpines, Conifers and Ferns

By Cyndy Cromwell

All Photos by Cyndy Cromwell

Many members will remember the traveling speaker Ian Young, who in 2013 visited the Piedmont chapter to speak about his amazing collection of bulbs and other alpines in cool, damp Aberdeen, Scotland.

Particularly memorable were his homemade troughs, created from styrofoam fish boxes – they were light, beautiful and finished with high quality marine paint, still going strong after 10 plus years.

Fish box troughs went on my "give it a go" list and were then forgotten until this past summer. On a tour of Angus, Scotland, gardens, I met Christine Watson, 20 year president of her local chapter of the Scottish Rock Garden Club and a friend of Ian's. Convinced by Christine that *styrofoam troughs could change my life*, I determined to attempt some of my own when I returned to the States.

The main stumbling block was locating *a source for the fish boxes* – as a Scottish invention, the troughs could not involve *wild spending* – and styrofoam coolers are not sturdy enough. Happily, my neighborhood grocery has a friendly man at the fish counter. If I appear fairly early in the day, he will gladly surrender the boxes in various useful sizes, and sometimes rinse them out. Even so, I want to drive straight home with the car windows open, as they can be a bit reeky. Sprayed with a 50% bleach solution and left to dry in the sun, the boxes are soon ready to attack.

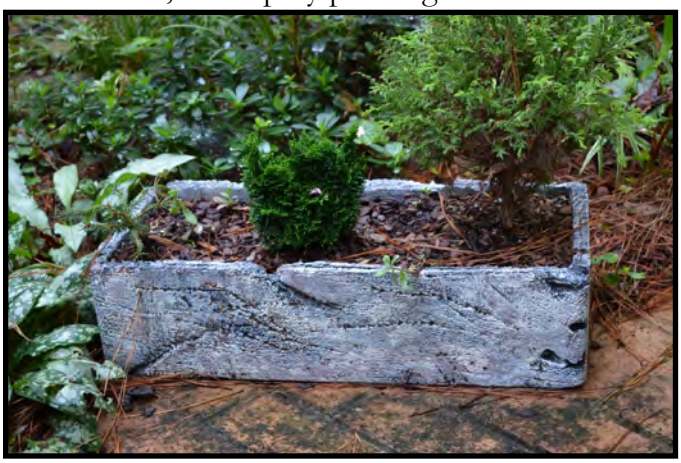
First *determine how much drainage* your plants will require – boxes for rock garden plants and conifers have lots of holes on the bottom, and I've even added crevices and cracks in the sides to keep the soil dry and drained. For moisture loving ferns and other shady plants, fewer drainage holes. There's no reason you couldn't try a bog planting and make only pinprick drainage holes. I use whatever is sharp and pointy – pruners, screwdrivers - precision is unnecessary.

Next, *take up your tools and go at it!* This step is messy – I do it over a garbage can in the garage. A wire brush is brilliant for adding heavy texture and hacksaw blades will help make interesting dents and crevices. The

object is to erase as much of the box's man-made appearance as possible.

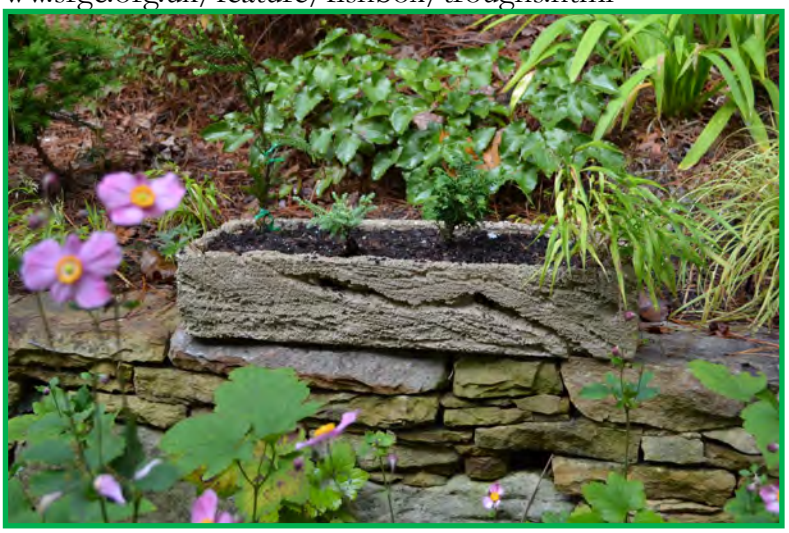
When you are satisfied, *take a heat gun* and seal up all the crumbly bits, including around your drainage holes. Don't linger more than a few seconds over any one area – this should take literally 30 seconds to complete.

Then comes paint. In my garden, I've found the best looking troughs more or less match the stone used in the raised bed retaining walls. Rather than do the blending and stippling suggested by Ian, I'm adding lots of texture with wire brushes and hack-saw blades, then spray painting with a shade of khaki camouflage paint.



Some troughs I did with lots of white paint, for a lime-stone effect; other troughs look a bit like wood, others like hyper-tufa, others volcanic rock.
Depending on your choices of paint and texture, you can create a lot of different effects.

You can find *Ian's instructions* here: http://www.srgc.org.uk/feature/fishbox/troughs.html



His troughs have endured many years of Scottish weather, requiring only minor paint touch-ups. I have not invested in marine paint – still using left-overs - so my repairs may be more frequent, but hey – *these things are free!*

Fast, fun and free - give fish box troughs a try!

Save Your Seeds

It is time to collect seeds for the 2016-2017 Seed Exchange. To help you get them ready, go to the webpage for instructions. https://www.nargs.org/seed-donation-instructions

Last Chance to Photograph Your Garden

In January, 2017, we will have a program of members' gardens and their favorite plants or just areas of the garden you're happy with. Travel photographs of gardens you visited and would recommend are also welcome. Whether graceful, riotous, whimsical or staid, plan now to share your garden and/or your adventures with other members. Contact Bobby Ward to be included in the January program

Titan Arum Blooms at NCSU

by Bobby J. Ward

A titan arum *(*Amorphophallus titanum) bloomed at one of NCSU's horticultural greenhouses on September 22, 2016. The rare plant, native to the rainforests of Sumatra, is the first or second largest flower in the plant kingdom (depending on references), has a foul odor, reminiscent of rotten flesh; for this reason it is sometimes called the corpse flower. Because of the stench, carrion beetles and flies presumably pollinate the flower.

This is the third known record of a titan arum blooming in North Carolina. Earlier ones bloomed at UNC-Charlotte and Duke University. And Tony Avent (Plant Delights Nursery) has one or more that will likely bloom in one to two years. According to Tony only about 400 have bloomed in cultivation since the first one bloomed at London's Royal Botanical Gardens, Kew, in 1889.

The NCSU plant was 13 years old and belonged to graduate student Brandon Huber. When fully open, the flower measured 6 feet 2 inches tall.

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Bringing Moss Magic Into Your Rock Garden

By Annie Martin, Owner of Mountain Moss in Pisgah Forest, NC and Author, The Magical World of Moss Gardening

As you enter the magical world of mosses, the emphasis is truly on green. The green allure of these tiny plants begins with an expansive range of verdant shades that create intriguing beauty – ultimately touching our spirits with a sense of serenity. When mosses adorn boulders and rocks, the visual appeal of a rock garden is enhanced and the sense of timelessness is magnified.

Mosses may be mini in size but these eco-friendly plants offer MAXI options for greening today's landscapes while being kind to our environment. Dating back 450 million years, bryophytes are considered the first land plants; it took another 50 million years before other plants such as ferns started to grow on our planet. These miniature pioneer plants are not only stunningly gorgeous, but they also provide options for stabilizing steep hillsides and minimizing the effects of rushing storm water.

Annie Martin, www.mountainmoss.com.

New Stone Path

Just the mention of the word "moss" conjures up images of green … and smiles on the faces of moss lovers. A major green benefit is that they offer beauty in your garden throughout the entire year. In winter, when the impact of flowers has faded and gardeners resign themselves to accepting dormant stages and brown mulch/pine needle dressings, emerald mosses reign supreme. As different mosses go through seasonal or reproductive transitions, the nuances of green in the landscape can range from dark, deep green to neon-chartreuse to shades of brilliant greens with golden overtones.

Annie Martin, www.mountainmoss.com.

Stone Flower

To add even more delight to dull winter landscapes, moss sporophytes (the reproductive equivalent of flowers) display intense hues of glimmering jewel tones — crimson, gold and bronze. Yet, you'll be able to enjoy sporophytes in every season since mosses don't follow typical growth patterns of other plants. The magic and intrigue with mosses is extraordinary when glistening raindrops encompass the spore capsules emphasizing hombre hues of brilliant colors. Rock gardeners can be grateful for this sporophytic stage. Miniscule spores carried by the wind and rain just might find a home in the niches of your feature boulders.

Annie Martin, www.mountainmoss.com.

Moss Landscape

Yet, if you haven't been the beneficiary of Mother Nature's distribution of moss spores, then you may want to add mosses yourself. It's amazingly simple as long as you use the appropriate species for your rock substrate and sun exposure. Sideways growers such as *Entodon* and *Hedwigia* tolerate the high heat index of a rock and can live in either sun or shade conditions. *Atrichum* and *Polytrichum* species are upright growers with soil attached to the colony's rhizoids (root-like structures) which grow in mounds. *Climacium* is spectacular with its upright growth resembling forests of tiny trees.

To be successful, you simply place the moss colony on the rock in a "groovy" or porous section where rhizoids can grab hold and some moisture can accumulate. For some species you'll want to make a mud pie mixture to push into nooks and crannies as a meager soil base. Then, you'll need to water your rocks… actually your moss features. After saturating the colonies (takes no more than a couple of minutes), press the mosses firmly into place. Repeat this process frequently during the establishment phase. When mosses dry out, you'll discover that upon supplemental watering or rainfall, they re-hydrate very quickly.

Annie Martin, www.mountainmoss.com.

Moss Rock

Annie Martin, a North Carolina native, is the author of The Magical World of Moss Gardening (Timber Press 2015). At the November meeting, Mossin' Annie will provide more insights about how to introduce moss magic into your rock garden. A hands-on workshop will give participants the chance to make their own moss and rock dish garden to take home. Autographed books will be available for sale after the program. Visit Annie's Web site: www.mountainmoss.com.

Adonis In the Garden

(after Ovid)

Born of a pregnant tree, he became a flower.
Adonis, during a brief life, was the most beautiful person on the planet. Even Venus was smitten, and stayed with Adonis on earth, preferring him to heaven.

Adonis was given to hunting, and because
she loved him, the goddess warned Adonis about lions and other savage beasts. To no avail.
Rashly, he speared a boar, which charged and gored him.

Hearing his dying groans, Venus flew
to his side, and found him lifeless in a pool of blood.
She tore her hair and beat her breasts, and vowed:
"My grief, Adonis, shall have an enduring monument."

So saying, she sprinkled fragrant oil over his blood,
which seemed to swell as when clear bubbles
rise in murky water, and within an hour
flowers sprang up on tall stately stalks.

But short-lived are the blooms. The wind, from which anemones take their name, shakes off white petals
so delicately clinging, doomed too easily to fall –
a memorial to Venus' grief at the brevity of beauty.

Come September my garden brims with wind-flowers.
A neighbor loves the homey helter-skelter of the stalks,
but grieves that the petals fall with every breeze –
"like sweet-smelling snow," she mourns, "that melts away too soon."

Laurence Avery

Plant Profile: Anemone Hupensis

by Marian Stephenson

Cultivar: Anemone x hybrida '*Honorine Jobert*'
Common Name: Wind-flower
Primary Uses: Perennial border or woodland edge in masses
Dimensions: 3-4 feet tall and 2.5-3 feet wide.
Culture: Sun to filtered sun, best with good moisture. May need support if grown in too much shade.
Blooms: Single white flowers, pink-tinges on the reverse and with golden stamens. Lovely pure white holds well, with no yellowing. Blooms late summer till frost. This year in Chapel Hill, it started in mid-September.
General Attributes: Blooming as late as it does, this anemone is a welcome, bright addition to the garden that is winding down. The clarity of the white is unusual and refreshing. A favorite of mine, I recommend '*Honorine Jobert* 'highly—it will be a great addition to your garden.

Photograph by Marian Stephenson, taken with tablet

'Honorine Jobert', Oct.18, Chapel Hill garden of Laurence Avery

Piedmont Chapter Programs, Fall 2016-Spring 2017

November 19, 2016*
Annie "Mossin' Annie" Martin
"Enhancing Your Rock Garden with Year-round Green Mosses"
Pisgah Forest, NC
**Note: A moss dish garden workshop will be available after the lecture at $20/person if we have a 10 person minimum. See registration information on last page.*

January 21, 2017
Members' Gardens Program
Members share vignettes of their personal gardens. Contact Bobby Ward to reserve a space. Length of 7-10 minutes only is suggested. We have time available for a few more.

February 11, 2017 (**note special date**)
Tim Alderton
"Wildflowers of Northwestern Colorado"
JC Raulston Arboretum, NCSU

March 18, 2017
Annabel Renwick
"Creating a New Ecosystem: the Development of a Piedmont Prairie"
Sarah P. Duke Gardens
Durham, NC

April 15, 2017
Matt Mattus
[President of NARGS]
Topic TBA
Worcester, MA

May 20, 2017
Spring Picnic
Garden of Helen Yoest
Raleigh, NC

NARGS Piedmont Chapter Meeting

JC Raulston Arboretum

No Gathering Time & Plant Browsing

Program Begins at 7:30 pm

Thursday, November 3, 2016

Liberto Dario

NARGS Traveling Speaker

"The Botanical Paradises of Greece"

Bring Goodies to Share

If your last name begins with the letters below, please consider bringing something to share.

		Jan	J—Me
Nov 3	D—Fi	Feb	Mi—P
Nov 19	Fi—H	March	R—T
		April	W—Z

Message from the Chair

Amelia Lane

Isn't fall great? Crisp air, clear skies, cool temperatures, and moisture in the soil This gardener's delight! I hope you all had little or no damage from Hurricane Matthew and are beginning your fall planting.

Thank you to our plant sale committee and everyone who brought and bought plants at our September meeting. We had a great variety of plants to satisfy our members different interests. Our chapter made over $350.

Your Board members have approved holding a national annual meeting here in November 2017. The planning committee is David White, Bobby Ward, Tim Alderton, and myself. There will be opportunities to participate in planning and working to make this meeting a success. Our area is one that gardeners get excited about with all the wonderful nurseries and gardens we have. We will have more details and requests for help soon.

We did not have a chapter meeting in October, but there are two exciting meetings in November. First is a Thursday evening lecture on November 3rd at 7:30pm in conjunction with the Raulston Arboretum. Liberto Dario from Greece is speaking on "The Botanical Paradises of Greece". Second is Saturday November 19, our regular meeting day. The speaker is Annie Martin talking about mosses and using them in our rock gardens. At 11:30am Annie will hold a moss workshop. Details are below. Sounds like fun!

Thanks to our chapter members who submitted plant names for the "Rock Garden Plants of the Southeast" list. And thanks to Charlie Kidder for writing about our area's growing conditions. All the information will be on the NARGS website.

That's all for now. I hope to see many of you on Thursday, November 3rd when we are "off to " Greece!

Moss Workshop Registration Open

After the November 19 presentation by "Mossin" Annie - Annie Martin – she will offer a workshop for a minimum of 10 participants, limited to 30 maximum. Participants learn to make their own moss dish garden or "moss as art" creation and will have it completed to take home. The workshop will begin at 11:30 a.m. and last one hour (*the room must be vacated for another group arriving at 1pm*).

Registration is $20 and must be made in advance to David White, treasurer. Annie will provide all mosses, native plants, decorative rocks and containers. The workshop sign-up deadline to register and submit payment is Sat., Nov. 12.