JOHNSON

This is Getting Dirty in Your Garden, brought to you by North Carolina State Extension Master Gardener Volunteers. I am your host, Harold Johnson, and I’m a Master Gardener in Durham County.

JOHNSON

Native plants overtake our landscapes! If only that were even partially true.

The benefits of using native plants in our landscapes are widely discussed. We may be making some progress in actually using the multitude of flowers, shrubs and trees that are native to our geographically diverse state of NC. However, we have a great deal more that we can do to benefit the wildlife of NC and simplify our job as gardeners.

A series of interviews will be posted in the coming weeks addressing the benefits of using native plants. Benefits to the dwindling bee populations when we plant more native species will be one of the areas explored by Getting Dirty in Your Garden. Other uses of native plants we'll discuss with advocates for the use of native flora in our State include the under use of native flowers and grasses on public street and road right-of-ways; bird lovers will have their chance to make a case for using native plants as well as beekeepers and butterfly lovers.

Today we feature a conversation with Chris Liloia, curator of the North Carolina native habitat gardens at the North Carolina Botanical Garden in Chapel Hill.   
  
Chris and I sat down in a conference room of the beautiful James and Delight Allen Education Center of the campus of the North Carolina Botanical Garden. From the background sounds heard as we talked you'll realize the Education Center is a vibrant hub of activity.

I began the conversation by asking Chris about her specific work at the Arboretum, especially as it revolved around native species of plants and the world of pollinators.

LILOIA

My background, my area of expertise is more native plants. The pollinator topic is a pretty hot topic these days for lots of different reasons. My work at the botanical garden is I take care of the habitat gardens, so that’s plants—simulated plant communities representative of the regions of the Southeast. We have the Mountain Habitat, a Coastal Plain, and a Sandhills Habitat, a Piedmont Habitat. I take care of some other collections in the gardens, as well. If you are familiar with the North Carolina Botanical Garden, you know that our focus is on Southeastern native plants and the importance of Southeastern native plants for lots of different reasons. This whole pollinator issue that’s really come into focus lately for reasons, sort of starting with the decline of the European honeybees and bigger biodiversity issues and all of the other things has really made pollinator gardening or butterfly gardening, I guess is where it all started. Pollinator gardening—something that’s getting a lot of attention from a lot of places—so, it’s a good thing to be talking about.

JOHNSON

What have you been able to do in your role—as from one interested in the native plants and the pollinators—do for the public?

LILOIA

In the past couple of years, I have been able to get out there with the message, a little bit. We did a big pollinator education series at the garden, I guess, a couple of years ago, where we had exhibits and lots of different talks and classes. As part of that, I developed this pollinator talk that I have given to various groups since then. I guess it all started with the EPA and the NIEHS—they do big events on Earth Day—both of those institutions. I have done pollinator talks for both of those groups. I think I started off doing butterfly talks and then I stopped using that word because I really do think that while butterflies are important and everybody loves butterflies and they are a great “hook”, there’s a lot more going on than butterflies that we need to make sure people are aware of. Butterflies is a good way to get people in, but you want to talk about the rest of it, too.

JOHNSON

Butterflies is the perfect poster child of the concept but there are so many other insects that are not as glamorous, but every bit as important! But what’s going on now that would be of interest to master gardeners and to garden clubs—both groups do listen to our podcasts and read our transcripts?

LILOIA

I would say that I bet a lot of your master gardeners and gardening folks have become more and more interested in or aware of Douglas Tallamy’s work. He wrote a book called ***Bringing Nature Home*** and has another book out—that I can’t recall what that one is, but it is about landscaping for natives for biodiversity that he wrote together with Rick Darke. Anyway, he really brought the whole connection between native plants and pollinators to the forefront—or native plants and native insects, I should say—to the forefront by doing the research and pulling together other people’s research that shows that native insects need to eat native plants, so we are not strictly looking at the—from the perspective of—early on in the butterfly gardening days, when everybody was trying to figure out “How do we bring these beautiful animals into our gardens?” It was about “What are the best connector plants for butterflies?” which is absolutely valid and relevant. Nectar is important to butterflies and lots of other insects. It’s also about what are the plants that insects eat—that the herbivorous insects eat—for butterflies the caterpillars are their herbivorous stage. It’s a funny thing. People look at butterflies and say “Oh, they are so wonderful!” and miss that part of the story where the early stages of butterflies are caterpillars—don’t look anything like butterflies—then you’ve got the metamorphosis and the caterpillars don’t eat nectar. They eat leaves or rotting fruit or various different things. So our native insects require native plants as a food source, be it the larva stage, the caterpillar or the different herbivorous insects. The take-home message to anything that you are going to say about pollinator gardening or gardening for biodiversity is “you need to plant native plants”. You can observe pollinators on non-native flowers getting the nectar, but you’re missing a big part of the picture which is the way they use the leaves, plant parts that they eat. Just putting that idea out there and showing people—if they come see a native plant garden and see the diversity of pollinators that are out there using these plants, it’s pretty remarkable.

JOHNSON

We frequently plant for the peak season of spring and then we have summer blooming flowers, but we forget that insects need twelve-month-a-year-access to native plants. Is that correct?

LILOIA

Absolutely—especially in the earliest and latest parts of the season. In the early part of the season, you need to have the spring ephemerals and the early flowering things to take care of the bees that emerge earliest. Actually, there are in our flora, if you are familiar with our flora, some of the most lovely and earliest most, I don’t’ know, long-awaited—because they are the things that bloom right at the end of the miserable winter—are the trout lilies and the spring beauties—and both of those plants have their own specialist bee pollinators—bees that just use those plants. The timing is so amazing—from years of evolution—that these bees are active when these flowers are blooming. Neither of these flowers, especially the trout lily, have a long bloom period. They just bloom so briefly and then they are gone. That there are bees that need and take advantage of that just sort of blows my mind! Yes, so the beginning of the season for the early-emerging and then even—I’m not going to say it’s more important—in the fall when you have the migrants, like the monarchs that we are all familiar with—as the monarchs are flying south, they need to have that nectar source to get them where they are going. It’s the same thing with the hummingbirds. I keep talking about insects, but insects aren’t the only pollinators. Hummingbirds are one of our best-known pollinators around here and they do the same thing—they migrate. Things that are still blooming in the fall, especially for the hummingbirds, things like jewel-weed is a huge source of nectar for them as they are moving south. For the butterflies, for the monarchs, for the late-active bees, you see them on all the different fall asters, so yeah, those late things are important. Another thing about the native plants, at some point in the late fall or early winter, the insects—it gets too cold for them to be flying—leaving some of those plants in place is really important for habitat because you’ve got some of the butterflies over-winter as adults. I’m a plant person and not an entomologist. I know just enough about insect life-cycles to know how much I don’t know. All these different critters: bees are different from wasps are different from butterflies are different from beetles; everybody is different. Even within those broad categories. You have butterflies that over-winter as adults, you’ve butterflies that overwinter as larvae. You have butterflies that overwinter as eggs. Keeping some structure and plant material in the garden for all of those different things to happen is important. As a gardener, I hear regularly, “Oh, we need to cut it down and make it tidy and put it to bed for the winter.” That’s not the best way to do things. You can leave things up strategically and still have the most beautiful garden, full of the most beautiful plants and still looking neat and tidy and set aside some space for all these life cycles to be happening. So don’t feel like your garden has to be chaos year round in order to invite pollinators in. Any person’s gardening style can fit with this idea of growing native plants and leaving plenty of habitat. You just need to be thoughtful about it.

JOHNSON

Plantsmen have hybridized. They’ve been able to get bigger blooms; they’ve been able to do all kinds of manipulations. But haven’t they also, at times, bred out important—maybe the right nectar—they’ve bred out some of the important things that the native plants still give us?

LILOIA

Yeah, as my area of expertise is more in the native plants and in the horticultural plants, I can address that a little bit better, I think, talking about natives. Certainly with some of the ornamentals, you know, some of the ubiquitous European and Asian ornamentals, that’s absolutely the case. I think with the natives it is also certainly a possibility. It’s a possibility that people are doing research on right now, in terms of the nectar and also in terms of things like “Does variegation, does variegated foliage impact the ability of insects to use plants?” Of course! When you’re selecting for the double flowers or a particular color, that’s another thing--when you are selecting for a particular color that’s not the normal color for a plant, do the insects have trouble finding it and using it because it’s not what they’re looking for? Yeah, people are doing research on it. Using straight species of native plants is always a sure-fire win. I think using cultivars of native species is probably more often than not a win. I am certainly an advocate for the native plants. If you love your peonies, certainly have your peonies. Just make certain that you have some diversity!

JOHNSON

Chris, are there some resources that gardeners can turn to if they don’t have experience in using native plants as we just discussed for year round use by pollinators? There’s got to be some kind of starting point for master gardeners or garden clubs.

LILOIA

Yeah, there are lots of great resources. The book that I mentioned earlier, that Douglas Tallamy, ***Bringing Nature Home,*** is wonderful! It’s good for a big picture perspective and also has lots of plant lists. One of the things that his research turned up is that oak trees are one of the most important plants for native insects. It’s because there are so many different caterpillars that use those oak leaves, which doesn’t mean that everybody needs to go out and plant an oak tree in their garden. I know some of us are a little more space-limited than that. But, there’s lots of good really information in that and good plant lists. Another good source is the Xerces Society—that’s X-E-R-C-E-S—they are named after (I’m going to be a little bit shaky on this) but they are named after a blue butterfly that went extinct—I believe it went extinct out in California. But they study all kinds of different kinds of pollinators and especially work with farmers to establish best practices to combat sort of the across-the-board, frightening pollinator decline and some of the causes for that. Anyway, they’ve got lots of good information. You can go to their website or you can find their book ***The Pollinator Conservation Handbook***. NC State has a great website that I bet most of your podcast people are familiar with. You can remind me of what it’s called.

JOHNSON

Well, they can access it from our show’s website: ***Getting Dirty in Your Garden***. They can jump from our website to one of those websites at State.

LILOIA

The website at State, it sort of walks you through, step-by-step, incorporating native plants in your garden: how to do it, what plants you might incorporate, what kinds of different animals that you might benefit. Whether your goal is to provide resources for birds or butterflies—different groups, that’s a nice source of information as well. The North Carolina Botanical Garden has a plant clinic—a two hour window from 11-2—everyday where you can either show up and talk to it’s either a staff person or a volunteer. Our volunteer group is called the “Green Gardeners”. A lot of them are master gardeners, but they get a lot of training from us as well. You can talk to them about not just “Which native plant should I plant to attract pollinators?” but any other question about gardening with natives that you might have. You can access that either by showing up here or calling on the phone, or there’s even a web-form--Monday through Friday from noon to 2. The North Carolina Botanical Garden website also has some really good plant lists as well. Yeah, there are a lot of different resources out there and once you start looking, there’s a lot of good information.

JOHNSON

Gotta ask you—your favorite native plant?

LILOIA

Oh! That’s an impossible question to answer!

JOHNSON

Or it’s maybe seasonal—your favorite spring; your favorite summer?

LILOIA

My favorite is always the one that looks the best right now—and I love them all! Let’s see, right now, one of my favorites is the blue star amsonia tabernaemontana is a good one. I’m going to go with silphium. So, rather than say a particular species, I’m going to go with the whole genus, so the silphiums are very sun flower-like. They are robust, tall perennials that bloom in the summer and into the fall. Aside from joe pye weed, which is sort of the poster child for the most amazing pollinator plant, you know, when the joe pye weed is blooming, you see everything on it: all of the butterflies, all of the skippers, all of the different wasps and bees, and the bee moths and the hummingbird moths. Everybody is all over the joe pye weed! I feel like probably most people that are interested in gardening with pollinators are going to find that information pretty early on in their search in “What should I plant for native plants?” Lesser known are the silphiums. Rosinweed is a common name and then each of the species has their own common name. Starry rosinweed or cup plant is one that’s a little bit more western. Of course, I’m not remembering the common names. Anyway, the silphiums are also, just they attract just a great diversity of pollinators. It’s just a lot of fun to watch them while they are blooming and see all the different things that come to them. And it’s a good way to learn some of your different butterflies. I’m definitely not an entomologist enough to start identifying—the beetles maybe—but the wasps and bees are a little bit trickier. You can learn a lot of butterflies just sitting and watching a silphium and looking up all the butterflies you see.

JOHNSON

Silphium is spelled…?

LILOIA

S-I-L-P-H-I-U-M. They’re piedmont plants that grow in this part of North Carolina. So the silphiums that we grow here at the botanical garden are all ones that we collected the seed locally. They are wonderful native plants that people don’t know that well that more people should be growing. But also, let me go back to those spring ephemerals—the trout lilies and the spring beauties. They are not show-stopping in the way that a peony is, but they bloom so early in the year when you are so desperate to see anything blooming. And that interesting relationship that they have with those early season pollinators—there are so many different parts of their story that make them dramatic in their own way. I say, grow those; and other topics that come up a lot in gardening in North Carolina have to do with drought tolerance and deer tolerance and those spring beauties and the trout lilies do a pretty good job in my yard, getting past the deer. The deer even eat the Christmas ferns in my yard, they are so horrible. The silphiums are not deer-proof by any stretch of the imagination, but both the trout lilies and the spring beauties and the silphium are all good drought tolerant plants, also. They take care of lots of different things.

JOHNSON

Last words—thoughts for the public about native plant gardening?

LILOIA

Let me add something about native plant gardening for pollinators. Obviously we don’t have enough time in this podcast to get into all of the life-cycles and all of the different things, but we did sort of briefly mention this earlier. Diversity is really a key. So, you are trying to provide resources for a whole suite of different kinds of critters that have different kinds of needs at different places in their life cycle. But, what does it take to make a beautiful garden? You want lots of colors and lots of shapes and things that bloom all year long. Those are exactly the things that you need to do to provide the right nectar for pollinators. Diversity of colors, different insects see different colors better than others. Diversity of forms—they have different kinds of mouth parts, so different forms will help different insects to get into the different kinds of flowers. Then the bloom time—which we’ve mentioned why that’s relevant early in the season, and late in the season, are important, but all the other times are important, too. So think about that; think about diversity in all the different ways and once you get into it, and you are learning about the specialist pollinators that have their particular needs—go ahead and support them and then you’ll be supporting all the generalist pollinators by supporting the specialists because they’ll be able to use the same things, too. Yeah, it’s a really important thing to do in supporting all kinds—in supporting by diversity in all the different ways. This is a much bigger topic than is easy to cover in this amount of time. Just having more native plants—having more kinds of habitat: bare ground for the ground nesting bees, wood for the wood-nesting bees and beetles, puddles of water, if you can manage it. A brush pile—it can be a tidy brush pile, it can be an attractive brush pile—but just more habitat space, all of these things make a difference, and make a difference not just in your ability to enjoy the lovely butterflies and insects in your yard, but also just to support life. Keep things in tune. Keep us all ticking along.

JOHNSON

Chris, I believe we’ll have some converts after hearing your enthusiastic endorsement of native plants and the relationship to pollinators!

LILOIA

There are some great places in the Triangle to come out and see native plant gardens, so do that too. Once you see these plants growing—I’m not knocking the beauty of the non-natives—certainly they have been selected for so many years to be wonderful and to be trouble-free, but the native plants have been comparatively speaking, overlooked, and we’ve got some fantastic stuff out there that works in lots of different kinds of gardens.

JOHNSON

In North Carolina, even just the piedmont, has one of the greatest diversities of plants that you can find in the US! Certainly, North Carolina from coast to mountains!

LILOIA

Absolutely!

JOHNSON

Borrowing from this show's sign off, why not visit the North Carolina Botanical Garden this week and enjoy the native habitat gardens and watch the pollinators at work!

JOHNSON  
You have been listening to “Getting Dirty in Your Garden” brought to you by North Carolina State Extension Master Gardeners. You may find this and future episodes on our website: gettingdirtyinyourgarden.org. Until next time, why not go out and get dirty in your garden?