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Editorial Content
We welcome articles on native plant species and related conservation topics, as well as high-quality botanical illustrations and photographs. Contact the editor for guidelines, deadlines and other information.
Paper wasps (Polistes spp.) are beautiful pieces of creation: intelligent, complex, good-looking, and docile if you don’t ask for it. I’ve spent hours around them in two contexts, botanizing and engaged in home maintenance. About once a decade I’ve been stung from the same cause – grabbing a branch to show flowers to students on a field trip, only to find the branch preoccupied. With a whole class watching, there’s no profanity. If somebody grabbed me I’d sting too, and the wasp’s sting isn’t ferocious, unless the recipient has an allergy.

Some folks may dislike paper wasps as predators. As the sweating co-digger in a home butterfly garden, I do wish they did not consume nice caterpillars, but then again, wolves consume nice deer, and we consume nice cows. By the way, the green lynx spider turns the tables, lurking on flowers and catching pollinators, having a special fondness for a tasty Polistes treat.

You’d be surprised how poorly studied paper wasps are, due largely no doubt to the inconvenience of their lifestyles – nesting naturally in hard-to-visit habitats, roaming long distances, and not universally regarded as charismatic. Most research is centered on their nesting on residential structures – they need wood to chew and form into their papery umbrella-shaped nest.

The nutritional habits of paper wasps are complex and odd. They haul caterpillars and other victims back to the nest to feed larvae. The foraging wasp to some extent consumes, softens, and partially predigests the prey, regurgitating the glop as baby formula.

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Paper Wasps as Pollinators

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Roaming wasps additionally visit flowers to collect nectar for their personal energy needs, and sometimes to contribute honey to the nest.

The birds, bees, and butterflies think they own pollination, but paper wasps are also due some respect. They too pollinate. Some orchids and all figs have wasps as pollinators, but those are different sorts of wasps. Paper wasps visit a lot of flowers, having an exclusive relationship with few. Sometimes wasps may perform double duty, pollinating, and as an added benefit, providing ant-pest defense.

The only totally waspy case I can bring to mind locally is the shrub corkwood, *Stillinia aquatica*, where pollination in the wet season is fully by wasps, or essentially so. Bees and wasps visit in the dry season, but when the marsh is under two feet of summer rain, the bees bug out and the wasps have a monopoly. Big marshy habitats can be miles across, requiring athletic pollinators.

*Stillinia* inflorescences and the surrounding leaves are yellowish. Wasps love yellowish colors, although they visit flowers of other hues too. Some *Polistes* favorites are goldenrods, additional members of the aster family (Asteraceae) having yellow centers, members of the carrot family (Apiaceae), milkweeds, and sweetscents (*Pluchea* spp.).

*Polistes* wasps are super-powered. One big brazen Brazilian species, *Polistes lanio*, has been documented returning to its nest like a homing pigeon after release 2 km away, flying at 8.7 meters/second, potentially covering those two km in under four minutes, almost 20 miles per hour. How does it find its way? Quite a feat for a microscopic brain, and I can’t even find my glasses.

Wasps out foraging and pollinating are mostly females, as the males — which grow from unfertilized eggs — usually live comparatively briefly. There is variation, and in some species males participate in feeding larvae.

What we need around here is a study on the relationships between paper wasps and plants in Florida: where they nest, their daily habits and home ranges, flower preferences, interactions with other flower-visiting insects and spiders, and contributions to pollination. Wow, that would be great if you think about it. So easy to say, but if you think about it more, you’d have to have the power of *Polistes* to take it on. No wonder we’re still in the dark.

References


About the Author

George Rogers received his Ph.D. in botany from the University of Michigan and did postdoctoral work at Harvard. Now retired, he served as chairman of the Horticulture Department at Palm Beach State College and continues research on plants around Palm Beach County, Florida. Photographer John Bradford is an avid naturalist and amateur taxonomist. Find them online at the Treasure Coast Natives blog which features flora (and occasionally fauna) found in Palm Beach and Martin Counties. https://treasurecoastnatives.wordpress.com
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least 50 and I was forced to weed some of them out. I like the compromise approach that involves purchasing plants or seed, growing them in controlled conditions in a flat or pot filled with potting soil, and adding the seedlings to the garden only after they are established in the pots.

Managing a Meadow
A planting of anything, native or not, requires management. There will always be some weeds that blow in from the outside world and there will be species that you want, like my blazing star, that need to be thinned out to ensure space for less aggressive species. In nature, meadows of all kinds burn with some regularity. Fire ensures balance, fertilizes everything in the area and dethatches grasses. However, few of us have the luxury of burning our suburban meadows each year to accomplish this. I find that many grasses need to be dethatched manually to maintain their health. I do this each spring before the new blades start putting on their major growth spurt. Do not do it in fall or winter as many creatures use dead grass for cover. If you have a larger area, you can use a dethatching rake.

I do not have an irrigation system and my plantings are designed to thrive without one, but I keep a hose nearby for extended droughts, especially during the first year when plants are establishing themselves. All plants need water to establish their root systems and it may take months for some to do so effectively. I also never fertilize, but I work hard to develop healthy soils. This cannot be done using woody or inorganic mulches designed to prevent weeds. By not decomposing, such mulches do nothing to add nutrients to the soil. Sterilizing your soil to kill pests also kills the soil’s micro-flora and -flora; the very things that plant root systems depend on.

I do not mulch my wildflower meadows. Normal leaf fall enhances the natural fertility of the existing soil, but adding additional mulch severely impedes the ability of native wildflowers and grasses to reseed. Of course, this means that I spend some time each week looking for the bad actors and pulling them by hand while they are still small. Nature takes its own course over time. My current wildflower area barely resembles what it looked like last year before my plants reseeded themselves, but all of the parts are still there. I find that spending time in my plantings is therapeutic and I look forward to those times I can set aside to peruse its status and make a few adjustments. Now in its second year, the area produces few weeds to pull, since the time I spent upfront and my regular attention to it have paid off. The developing grasses help reduce bare areas where weeds would more easily find a foothold and leaving the dead stems of the wildflowers that die back to the ground each winter helps with that too.

I wish all of you luck as you move forward to create living landscapes. Wildflower meadows are not for the lazy gardener or the person who simply wants to stop taking care of their yard. Keep your eyes open to the very real issues you will be taking on. Don’t jump into this blindly or with a zeal unmatched by the energy it will take. Value plant diversity; it always promotes wildlife diversity.

Take the time upfront to set objectives for everything, strive to meet those objectives and be willing to make adjustments along the way if something that made sense once turns out to not be working as well as you planned. I have made a great many mistakes in the more-than three decades since I began working with native plants and I am sure to make more, but I have learned more from my mistakes than my successes. If I can save you from making some of the same mistakes before you get started, I will have succeeded with something by writing this article. Enjoy your adventure.

References

Further Reading

About the Author
Craig N. Huegel is owner and operator of Hawthorn Hill Native Wildflowers. He teaches biology at St. Petersburg College, and is the author of Native Florida Plants for Shady Landscapes, Native Wildflowers and Other Ground Covers for Florida Landscapes, and Native Plant Landscaping for Florida Wildlife. His most recent book is The Nature of Plants: An Introduction to How Plants Work, published by the University Press of Florida.

Andrea England combines her background in landscape design with a love of native plants and three decades of experience gardening in Florida. Her company, My Florida Meadow Co., is a boutique meadowscaping company based in Ocoee, Florida that specializes in design, installation and management for biodiverse meadow gardens. https://www.myfloridameadow.com

NOTE: Meadow is used in this article to define a mix of native grasses and herbaceous flowering plants, not to indicate a type of ecosystem. To learn more about Florida’s natural communities, see: www.fnai.org/PDF/AA__Short__Descriptions__Final__2010.pdf and Ecosystems of Florida, edited by R. L. Myers and J.J. Ewel, University Press of Florida.