

## The state of germination knowledge for rare species of *Packera* (Asteraceae) in North Carolina

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Ten taxa in the genus *Packera* (formerly *Senecio*) are found in North Carolina (Weakley, 2011). *Packera* species produce large

Seeds are an important source of dispersal and propagation for plants, and may require very specific conditions for germination and seedling establishment. Knowledge of these conditions can aid restoration or reintroduction efforts of rare species. One useful technique for preserving rare plants involves collecting seeds from natural populations, germinating the seeds in a controlled environment, and then reintroducing the new seedlings or juvenile

plants to the original populations or other suitable habitats. When the species is rare or natural populations are small, the number of seeds available for collection is limited. Detailed knowledge of germination ecology can reduce the number of seeds that needs to be collected for propagation. Useful information related to germination ecology includes environmental preferences (e.g. temperature, light, moisture), the expression or absence of dormancy, and whether or not the species maintains dormant seeds in the soil (soil seed bank). Many rare plant species could benefit from the low-cost, effective method of assisted propagation from seeds; however, we lack information about germination (Cerabolini et al., 2004).



Figure 1. Composite heads of woolly ragwort (*Packera tomentosa*) in eastern North Carolina. Photo credit: James P. Tumulty

displays of pale yellow to orange flowers (Deborah Trock, eFloras.org). *Packera* belongs to the Asteraceae family, commonly called the sunflower family. This family is known for producing composite heads, which look like large flowers but are composed of whorls of many individual florets (small flowers). In most cases, two types of florets are found on a composite head: large ray florets around the periphery and smaller disc florets in the center (see Figure 1). Each floret produc-

es a single dry fruit called an achene; since the entire achene is usually dispersed and involved in germination, it is often referred to as a seed. When the fruits or seeds produced by the two different types of florets differ in appearance or behavior, the species is said to exhibit heterocarpy ("different fruits") or seed heteromorphism. Although this phenomenon occurs in many plant families, it is most recognized in the sunflower family (Imbert, 2002). Heterocarpic members of the sunflower family usually produce two different types of seeds: peripheral seeds from ray florets and central seeds from disc florets.

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**President's Message**



**Jean Woods**

I want to catch everyone up about several changes we have had recently. Lynda Waldrep, our vice president who arranged our spring and fall outings has stepped down. As you know, if you have been on a recent trip, Lynda did a terrific job of finding places that are not open to public for us to visit and see many of North Carolina's native plants. Thank you, Lynda!!

Replacing her will be Lisa Gould. Lisa brings a lot of knowledge to our endeavors. She grew up in Winston-Salem, NC in a family of nature lovers, majored in Biology at UNC-G, and has a MS in Zoology from the University of

Rhode Island. Lisa taught biology at URI for many years, was a research associate in the Department of Natural Resources Science, and was a co-founder and first executive director of the RI Natural History Survey, a clearinghouse for ecological data in the state.

She also initiated the RI Invasive Species Council and was a co-founder of the RI Wild Plant Society. Lisa especially enjoyed leading walks and teaching plant identification courses for state and regional environmental organizations; she was an instructor in the New England Wild Flower Society's certificate program until she returned to North Carolina in 2006. Among other publications, Lisa is a co-author of Vascular Flora of Rhode Island and Coastal Plants from Cape Cod to Cape Canaveral (UNC Press). Lisa is currently working on plans for our spring trip and we will have details later. Welcome, Lisa!

Jeff Prather has also stepped down after 3.5 years as faithful and diligent Treasurer. Jeff worked hard to clarify our tax status and our sales tax issues and we are thankful to him for his service to the Society and keeping us in compliance with all the laws. Thank you, Jeff!

Replacing Jeff will be Terry Ball, a member of the Triad Chapter and a CPA. Terry has an Accounting degree from Chapel Hill and a career in helping clients manage their money. Terry has served on a number of Boards including the Summit Rotary club (President), American Red Cross, Child Care Ministries Board, Triad World Affairs Council and START, Student Tobacco and Alcohol Resource Team. She currently owns her own business specializing in financial management solutions for small businesses. Welcome, Terry!

Joanne Lapple who has been our Historian for the past two and half years is also stepping down. We are thankful to Joanne for keeping our archives and the Society's scrapbook. This position is currently not filled, so if you are interested in applying for this great way to serve the Society, let me or another Board member know. Thank you, Joanne!

We are also interested in new ways to capture news items and other information about the NC NPS, perhaps using our web site for people to post items. Currently we do not do a good job of getting items to the Historian. So if you have anything that you feel should be in our archives, email them to me or mail it to our official address.

North Carolina Native Plant Society  
c/o North Carolina Botanical Garden  
CB#3375, Totten Center  
UNC-Chapel Hill  
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Figure 2. Central (top row) and peripheral (bottom row) seeds of woolly ragwort (scale bar = 1 mm). Peripheral seeds may be dormant at dispersal. Photo credit: Corey Doughty.

*Packera tomentosa* (= *Senecio tomentosus*), called woolly ragwort (Figure 1), grows in disturbed habitats such as roadsides, where it forms dense, attractive stands of golden yellow composite heads. Funding from the North Carolina Native Plant Society aided my thesis work and report of seed heteromorphism in this species from a study population located at East Carolina University's West Research Campus, Pitt County, North Carolina (Leverett, 2012; Leverett and Jolls, in review). I collected seeds in the field and used experiments in the laboratory to study germination behavior. Peripheral and central seeds of woolly ragwort appear similar but differ in germination and weight. This is "cryptic" seed heteromorphism—the differences between seed types are not visible as differences in morphology and thus "hidden" (Figure 2). Cryptic seed heteromorphism in woolly ragwort is expressed through three characteristics: 1) central seeds germinate faster, 2) central seeds are more likely to germinate, and 3) peripheral seeds may be dormant. Aging or moist chilling can break dormancy in peripheral seeds.

Although woolly ragwort is not a species of conservation concern at this time, three taxa in the genus *Packera* are protected in the state of North Carolina (North Carolina Plant Conservation Board, 2010). Divided-leaf ragwort, prairie ragwort, and Schweinitz's ragwort are considered threatened (T; Table 1). The North Carolina Natural Heritage Program also recognizes these three taxa as threatened (North Carolina Natural Heritage Program, 2010), with divided-leaf ragwort also considered

a Federal Species of Concern (FSC). Bog ragwort and balsam ragwort are both considered significantly rare at the state level, either rare throughout (SR-T, bog ragwort) or on the periphery of the species' range which extends into North Carolina (SR-P, balsam ragwort; North Carolina Natural Heritage Program, 2010).

Our knowledge of germination requirements is limited for most taxa of *Packera* native to North Carolina (Table 1). Some germination research has been conducted for divided-leaf ragwort, heart-leaf ragwort, and woolly ragwort, but germination studies of other *Packera* are lacking.

Germination research on rare *Packera* taxa could be useful for their conservation in North Carolina. Use of seeds for restoration provides genetic diversity, which is crucial for threatened species with narrow ranges. Germination studies of rare species of *Packera* in North Carolina are encouraged, provided seed harvest would not limit population recruitment. Seed harvest that does not exceed 10% of total seed set in populations of perennial plants with at least 100 individuals is recommended (Menges et al., 2004). Recruitment from seeds may not be the only source of propagation; many species of *Packera* also are perennials capable of vegetative reproduction by rhizomes (eFloras.org).

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The state of germination knowledge for rare species of *Packera*

| Taxon  | Status | Habitat  | Flowers | Germination  |
|--|--------|--|---------|--|
| Small's ragwort<br><i>P. anonyma</i>                                 | C      | Rock outcrops, roadsides, woodlands            | May-Jun | 50%: 12/12 light/dark, 18°C (Gramling, 2006); 80%: 8/16 light/dark, 20°C (Royal Botanic Gardens Kew, 2008) |
| heart-leaf ragwort<br><i>P. aurea</i>                                | C      | Moist forests, bottomlands, bogs, stream banks | Mar-Jun | 78%: 8/16 light/dark, 20°C; 79%: 8/16 light/dark, 25°C (Royal Botanic Gardens Kew, 2008)                   |
| bog ragwort<br><i>P. crawfordii</i>                                  | SR-T   | Bogs, fens                                     | ?       | Unknown  |
| smooth ragwort<br><i>P. glabella</i>                                 | C      | Swamp forests, bottomland forests              | Mar-Jun | Unknown  |
| Blue Ride ragwort<br><i>P. millefolium</i>                           | T, FSC | Stream banks, rock outcrops                    | Apr-Jun | 54%: 12/12 light/dark, 18°C (Gramling, 2006)   |
| round-leaf ragwort<br><i>P. obovata</i>                              | C      | Nutrient rich forests and woodlands            | Apr-Jun | Unknown  |
| divided-leaf ragwort<br><i>P. paupercula</i> var <i>appalachiana</i> | T      | Glades, cliffs, barrens, roadsides             | Apr-May | Unknown  |
| <i>P. paupercula</i> var <i>paupercula</i>                           | SR-P   | Thickets, meadows, glades                      | Apr-May | Unknown  |
| Schweinitz's ragwort<br><i>P. schweinitzianus</i>                    | T      | Grassy balds                                   | May-Jul | Unknown  |
| woolly ragwort<br><i>P. tomentosa</i>                                | C      | Sandy roadsides, granitic flatrocks            | Apr-Jun | 75% (CS) and 36% (PS): 16/8 light/dark, 25/15°C (Leverett, 2012; Leverett and Jolls, in review)            |

Table 1. Species of *Packera* in North Carolina. Data compiled from the list of rare species provided by the North Carolina Natural Heritage Program, Weakley's flora (2011), and primary literature (noted). C = common, SR-T = rare throughout its range, SR-P = rare on periphery of its range, T = threatened, FSC = federal species of concern. CS = central seeds, PS = peripheral seeds.



## The state of germination knowledge for rare species of *Packera* continued from pg. 3

Species of *Packera* in North Carolina that are not of conservation concern offer opportunities to infer the germination requirements of common species for gardens as well as for rare species in the genus. Other common species of *Packera* in North Carolina include Small's ragwort, heart-leaf ragwort, smooth ragwort, and round-leaf ragwort (Weakley, 2011). Rare and common *Packera* may exhibit cryptic seed heteromorphism characterized by one seed type with dormancy, as I found in woolly ragwort. Dormancy in seeds of other *Packera* also might be broken with aging or moist chilling, thus speeding up germination. Seeds should be collected from multiple individuals of these species and germinated under a range of conditions to determine the best temperatures, moisture conditions, and cycles of light and dark for germination. Such collection should always be done with appropriate permits and legal access, ethically, and ecologically, so as not to impact populations. Such studies make excellent projects for students and can help determine the general germination requirements of common and rare taxa in *Packera*. With this information, conservation biologists can make informed decisions for reintroduction and habitat selection efforts for *Packera*, a genus of beautiful native asters that merits further study.

### Acknowledgements

The North Carolina Native Plant Society and East Carolina University Department of Biology and Graduate School funded the research that led to the discovery of cryptic seed heteromorphism in *Packera tomentosa*. I extend special thanks to Claudia L. Jolls, my mentor and research advisor; Misty Buchanan for providing the NCNHP list of rare plants in North Carolina; Dale Suiter for helping me locate the list of rare plants in North Carolina; James Tumulty and Kathy Schlosser for helpful comments on this article; and Mike Kunz for recommending useful web resources.

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*Note: An abstract of this article appeared in the May 2012 issue.*



## Thomas S. Shinn, Jr.

Thomas S. Shinn, Jr. Leicester, NC

Engineer, mathematician, musician; lover of history, word origins, classical music, poetry, humor, astronomy and wildflowers, Tommy Shinn (Thomas S. Shinn, Jr.) left us on October 18, 2012, at age 73. A celebration of his zestful life will be held at a later date.

Tommy's parents were Tom and Bruce Shinn, who first joined the NC Wildflower Preservation Society in 1962. Tom served as President (1972-1974) and contributed in many ways to the success and growth of the Society, as did his wife, Bruce, who also served on the board during the 1970s.

The Shinn family established the Shinn Fund which offers scholarships to North Carolina students. The featured article in this issue of the newsletter is, in fact, a Shinn grant recipient.

Our sincere sympathies to Tommy's wife, Nancy, who remains an NCNPS member, and his friends and family.



*Indigofera tinctoria*

## Introducing...



**Lindsay D. Leverett**, author of the feature article in this newsletter, is currently pursuing a Ph.D. in Ecology at Duke University, where she works with Dr. Kathleen Donohue. A native of Jack, AL, Lindsay graduated summa cum laude with a B.S. in Ecology/Field Biology from Troy University in 2010, where she worked with Dr. Michael Woods on the legumes *Indigofera* (indigo) and *Crotalaria* (rattlebox) in Alabama. She received her M.S. in Biology from East Carolina University in May 2012, where she worked with Dr. Claudia Jolls. The Tom and Bruce Shinn Grant from the North Carolina Native Plant Society (2011) supported her thesis work on cryptic seed heteromorphism in native woolly ragwort (*Packera tomentosa*, Asteraceae) in North Carolina. Lindsay began working with native plants as an undergraduate and maintains an interest in studying their distribution, taxonomy, evolutionary ecology, and conservation. She is most interested in aspects of seed ecology, including dispersal, dormancy, and germination. When not in the field, lab, or classroom, Lindsay enjoys reading, hiking, and relaxing with her cat Wilson.



## Strange Request....

I have a strange request, and I'm wondering if it would be appropriate to post it in the NCNPS newsletter. The University of North Carolina Herbarium is collecting expired license plates with botanical themes. Bruce Sorrie has donated his CTENIUM plate; Bob Peet has given us an expired UNIOLA plate. I'd love to receive other plates -- the plates themselves, not photos thereof -- with a short statement from the donor as to why s/he chose this plant for their ride.

I've emailed people who I already know who have botanical plates, but I'm sure there are lots (well, maybe not lots, but a few more!) more folks who have plant plates, and I'd like to get the word out.

Would you consider posting my plea in your next newsletter?? I can write up something more official if needed... or you can write it up. Folks can send their plates to me at the address below.

MANY THANKS  
Carol Ann McCormick

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[mccormick@unc.edu](mailto:mccormick@unc.edu)

## With regret, and thanks...

Nearly fourteen years ago, I joined the NC Native Plant Society, and not long after that, I answered a call from then-President, Alice Zawadzki. The Society, she said, needed someone to do the newsletter.

Being a writer, and a firm believer that the best way to learn about an organization and its' people is to volunteer, that is just what I did. As a bonus, my plant knowledge increased substantially and I met many wonderful people.

Now, after more than decade of producing the newsletter, and for most of those years an annual Journal, I believe it is time for another's perspective, interests, and talents to be reflected in our communications.

Before stepping down, I want to take just a minute of your time to recognize and thank a few people:

- Alice Zawadzki for offering the opportunity (and putting up with drop caps all these years ☺ )
- Tom Harville for his faithful support, leadership, and friendship
- Mark Rose, David McAdoo, Robert Jones and others for wonderful photos when asked
- Hugh Partridge and Jeff Prather for reminding me to submit expenses and who kept great membership lists
- NCNPS members for so many kind comments and interesting articles

One thing I would like to leave with you is my firm belief in the importance of plant conservation, a vital part of our mission. Conservation was of primary concern for NCWFPS/NCNPS for a number of years under the leadership of greats such as Totten, Blomquist, Heichenbleikner, Bell, Radford, and Wells. I hope that everything we do continues to move us closer to those same principals.



Thank you!

*Kathy Schlosser*  
Editor



## Holiday greenery: *Phoradendron leucarpum*, mistletoe

Winter reveals a whole new botanical world, including one item of particular interest for the Christmas holidays—mistletoe (*Phoradendron leucarpum*). The tradition of kissing under the mistletoe has its roots in Scandinavian history, where it was the custom, if enemies met beneath an oak bearing mistletoe, that they would lay down their arms for the rest of the day, believing that the plant held the soul of the host tree. From this tradition, it is believed by some, grew the custom of kissing under the mistletoe.

Another explanation is from the Norse myth of the goddess Frigga and her son, Baldur. When her son was born, Frigga extracted a promise from plants, animals, and objects to refrain from harming Baldur. A prankster god, Loki, took note that Frigga left mistletoe out of the promise, and convinced another god, who happened to be Baldur's brother, to fashion a spear from an oak on which mistletoe grew, using that spear to do away with Baldur. The death of Baldur, a god of vegetation, brought on winter, which eventually led the mischievous gods to bring Baldur back to life. Frigga responded by declaring that mistletoe should always bring love to the world rather than death, making mistletoe a sacred plant.

The association of mistletoe with romance and peace is quaint—certainly good tools for inspiring curiosity about our natural world in children. But the reality is a little different. First, mistletoe is a parasite. Second, it is spread primarily by birds who, devouring the berries with relish, then leave their excrement on the branches of trees—hardly the stuff of romance. The seeds thus deposited quickly send a tiny root-like system into the branch that provides the growing plant with nutrients and water. Incapable of growing in soil, mistletoe must have living tissue to support its growth. In our area, they are common on oaks and maples, where they can easily be seen this time of year. Look for a ball-like shape of evergreen growth high in the branches of trees.

The mistletoe that grows around here usually has blue/black berries. The type often sold this time of year as a Christmas decoration, with white berries, is probably *Phoradendron tomentosum*, native to Texas, Oklahoma, and Louisiana. Both of these, and about 22 others, bloom during September and October with small golden yellow flowers. With leaves still on the trees at that time, few of us get to see the plants in bloom, but they are in their full berried glory and visibility now.

The name *Phoradendron* is derived from the Greek *phor*, a thief, and *dendron*, tree. The derivation of mistletoe is a little

less clear, though apparently from Old English *mistel*, perhaps referring to birdlime (a twig covered with a sticky substance sometimes from mistletoe), and *tän*, twig. That sticky substance, birdlime, might help new plants get established as seeds are dropped by the birds.

If you have a tree infested with mistletoe, be assured that it is a slow grower. You can control a light infestation by simply pruning out the infected branch. If your tree is loaded with mistletoe, you would have to remove all infected branches, thus ultimately killing your tree. A heavy infestation can kill your tree too, especially in times of drought, when the mistletoe will consume much of the water drawn up by the tree, so it is up to you whether to enjoy the tree and the mistletoe as long as you can, or to remove the tree and replace it. Most commonly known now as a holiday decoration, mistletoe, especially the European variety, has a long history of medicinal uses. Though the leaves and berries are poisonous to humans, extracts have been used for ailments ranging from convulsions, internal hemorrhage, urinary disorders, and more recently, cancer. In spite of laboratory trials exploring mistletoe as a cancer treatment, the FDA has so far not found it to be a safe or effective as a drug. In fact, mistletoe can cause vomiting, seizures, slowed heart rate, and death.

There is still another way mistletoe can cause death, and property damage, for it is often harvested via shotguns. The plants firmly attach themselves to tree branches, and often on narrow branches near the tops of trees—which makes it dangerous to climb to get them. Trusty old shotguns fill the bill by blasting the plants out of their roosts, providing the harvester with bits of the plant that can be sold this time of year. This is not a recommended technique for many obvious reasons. The best way to get mistletoe is to purchase it from someone who grows the plant and harvests with cherry-pickers.

No sense ruining your Christmas and your chances for a kiss by spending time with our local sheriff for endangering the community.

Get out your camera, walk through the woods, and collect your mistletoe on film.



Kathy Schlosser

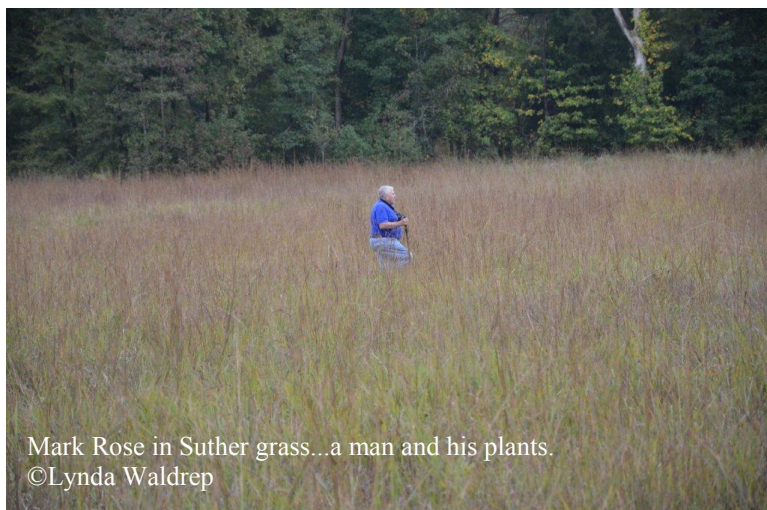




**NCNPS Fall trip photos**



Larry at motel...never know what you will find on an outing.  
©Lynda Waldrep



Mark Rose in Suther grass...a man and his plants.  
©Lynda Waldrep



Vaughan, Rose, and Jones...tree huggers  
©Lynda Waldrep



## Love and Fear

*Note from Editor: While looking through NCNPS records to find the dates that Tom Shinn served as President, I ran across the following article by Lionel Melvin, another Past President. It was written in October 1970.*

Our WildFlower Preservation Society has a jump of almost two decades on the current conservation craze which has brought about the involvement of millions of people and their governments. The differences in our organization's attitude on conservation and that of the new ecology cult is that of love and fear. We are members of our organization because we have a sincere love of nature and wish to preserve the wild natures which contribute to its beauty. The recently aroused conservationists are motivated by fear of losing an environment essential to their survival—which is all right, too, but less altruistic or commendable.

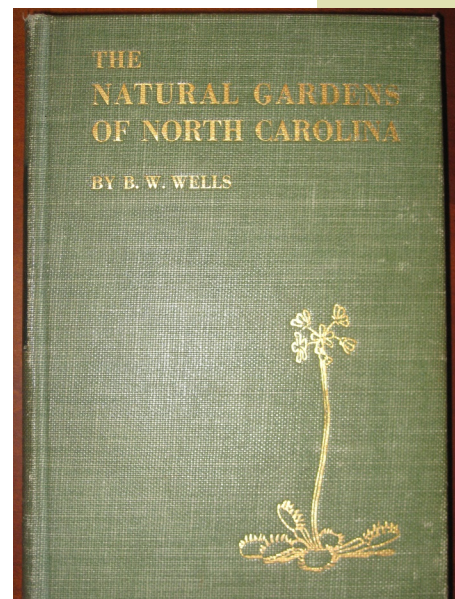
No organization in the state has been more fortunate than ours in having competent guidance by North Carolina's best in their particular fields of science. Men like Doctors Totten, Wells, Harper, Freeman, Rogers, Bell, Radford, Hechenbleikner, Tyndall, and the late Dr. Blomquist have greatly enriched our lives by sharing with us their knowledge of plants and plant environments, and above all, their enthusiasm for these things. How well these men could have used the support of the new ecology element back when Dr. Harper was saying, "leave nature alone," when Dr. Totten advised "leave some for seed," when Dr. Wells pleaded with an indifferent legislature to save the Burgaw Savannah, when Dr. Rogers warned us to watch where we "put our big foot" and when Dr. Blomquist, in speaking against pollution along our highways, advocated that the offenders "be taken out and shot before sunrise."

Of course, the statement by Dr. Blomquist was figurative, but it does indicate that these men were and are very sensitive to and felt strongly about the callous destruction and pollution of nature. Perhaps now, the emotion of fear will bring about that which Dr. Blomquist and all of the others failed in appealing to man's finer instincts.

For having known them, the shadowy forest, the clear stream, old fields, and the open meadows, each with their particular kind of flowers, hold for us greater understanding of nature and its wondrous ways. A people's culture does not arise in a generation. It takes many, and each adds a small part. Certainly that part contributed by our learned members of our wild flower society is more than worthy of the generation to which we belong. May the continuity of this culture prevail

against the efforts to those who would break with tradition, belittle our heritage and adulterate our culture with poor substitutes.

~Lionel Melvin  
President, 1956—1958





## More From The Archives

From the Spring 1974 NCWFPS newsletter. Photos added.

### Weeds In Your Garden

Andrew J. Warren, MD

All weeds and wildflowers have flowers and many other similarities. The problem is when and why does the transition take place. We asked a few knowledgeable people to distinguish between weeds and wild flowers. The more cogent and terse reply was "A wild flower becomes a weed when you don't want it." Solomon's Seal seems to be favored by wild flower gardeners. Its flowers are colorless, are not showy and one has to assume a praying position to see them as they are well hidden by the foliage and their blooming period is short, but wild flower gardeners want them. By contrast, thoroughwort has a conspicuous, silvery white corymb (flat top composed of many small flowers) and is showy from mid-summer to early fall, but it is not listed in the popular "Wild Flowers of North Carolina."

Most weeds become wildflowers when you become acquainted with them. To become acquainted, you need a ten-power magnifying lens (we use a Coddington field lens), and to know a few words that identify the parts of the flower: calyx, sepal, petal, corolla, anther, filament, pistil, style, stigma, and ovary. These ten words describe the structure of flowers, and most wild flower books have a diagram showing these parts and also a glossary. These words are also found in most dictionaries.

If you have never seen a flower with the aid of a magnifying lens, you will be astonished at the beauty you never knew existed in the weeds in your garden. We bought our first wild flower book in the spring of 1928 and our lens the following year. The book shows heavy usage, and it has long been out of print. The lens is good for another 40 years. With this simple equipment you are outfitted for a lifetime avocation of rewarding education and pleasure, in town or country and wherever you happen to be, at home or abroad.

On our place in Chapel Hill there is an area about 50 feet wide and 150 feet long that probably has never been touched by plow or hoe. The ecology varies from hardwoods to open pines, to a bare bank that slopes to a moist ditch below. The soil is heavy clay with two or three inches of top-soil. Wild flowers and weeds grow in all of these areas, and we were astonished to see some of them growing out of their natural

habitat: Pipsissawa growing and blooming in an open area of the yard boy neglected to cut and Monkey Flower (*Mimulus ringens*) on the dry bank as well as in the moist ditch below.

We grew up in Piedmont North Carolina but lived most of our active career in more northern latitudes and we were delighted to find a few Bluets (*Houstonia caerulea*) in bloom in March. This pleasant surprise caused us to wonder what we might find growing on the place during the coming summer, and we began recording our findings. From that day through October we recorded 77 species covering 29 families and 55 genera.



*Desmodium rotundifolium* DC. - prostrate ticktrefoil  
© Bruce Sorrie. USDA Plants Database

Although we have been interested in weeds and wild flowers for some time, our interest has been mostly in the flowering stage. By patrolling the area almost daily and watching things grow from the time they first appeared through the blooming period and on to seed production, we learned much. In June we discovered an interesting looking plant we thought might be one of the rues but when it flowered the blossom was pea-like, that ruled out the rue family. We then thought it might be one of the clovers. We made our final classification when it seeded and the seed clung to our trouser legs: Beggar Lice. We found another weed trailing along the ground with thick round velvet-like leaves and we were really astonished when its seed turned out to be beggar lice (*Desmodium rotundifolium*), Dollar Leaf. In September we found a single spike of Blazing Star (*Liatris graminifolia*) in the open pines area with

...continued on following page



**Weeds in your garden continued...**

two or three flowers at the tip of the spike and wondered how we could have missed it previously as we were under the impression that plants whose flowers were in long spikes, the lower ones bloomed first and progressed towards the tip. As we watched it from day to day, it kept blooming progressively from the tip to the bottom. This reversal, we learned, is characteristic of the *Liatris*.



©Kathy Schlosser

*Asclepias variagata*. Variegated milkweed

Our greatest thrill was finding a Variegated Milkweed, a species we had not seen before and which is listed as uncommon. Unfortunately, we did not protect it from the ants and birds,, and no seed were recovered. We also found a Stagger-Bush, which was new to us.

The weed that was of continuous interest from April through September was Flowering Spurge (*Euphorbia corollata*), commonly called a milkweed because of its milky sap. In our poor soil it grew about a foot tall in the open pines area and it was in flower throughout the summer. The dainty white flowers are unisexual. The staminate flowers have a single stamen and the pistillate ones a single pistil. For each pistillate flower there are several staminate ones. The ovary of most flowers is at the base of the pistil and is contained mostly within the flower but in the euphoria the three-lobed gland containing three seed protrudes and droops. The many interesting ways that plants grow, flower and reproduce is as interesting as their colorful blossoms.

Some of the more common weeds and flowers we listed were: pink and yellow Oxalis, Blue-eyed Grass, Cinquefoil, three different Buttercups, Green and Gold, sun Drops, Rattlesnake

Weed, Solomon's Seal, tall Bluets, Wild Ginger, Spotted Wintergreen, Saint Andrew's Cross, Lyre Leaf Sage, Elephant's Foot, Butterfly Pea, New jersey Tea, Blazing Star, Wild Lettuce, Lion's Foot, Pasture Rose, Pokeweed, Ground Cherry, Shepherd's Purse, Horse Nettle (*Solanum carolinense*), Sensitive Plant, Monkey Flower, Rabbit Tobacco, Golden Rods, Asters, and several clovers.

When we take a walk and see a wild flower in bloom and admire its beauty, that is a pleasant experience. But consider how much more meaningful the experience would be if we were more knowledgeable about them. Becoming acquainted with your weeds and wild flowers can be a rewarding mental and outdoor physical exercise and a profitable variation in the use of one's leisure time. If you are a detective story buff or like to solve puzzles, you will find classifying your weeds a worthy challenge.

Weeds can be beautiful and getting to know them can be fun. Why not enjoy then?

Andrew J. Warren, MD

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*L. graminifolia* = *Liatris pilosa* (Aiton) Willd. var. *pilosa*  
shaggy blazing star

*H. caerulea* = *Houstonia caerulea* L.  
bluets



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