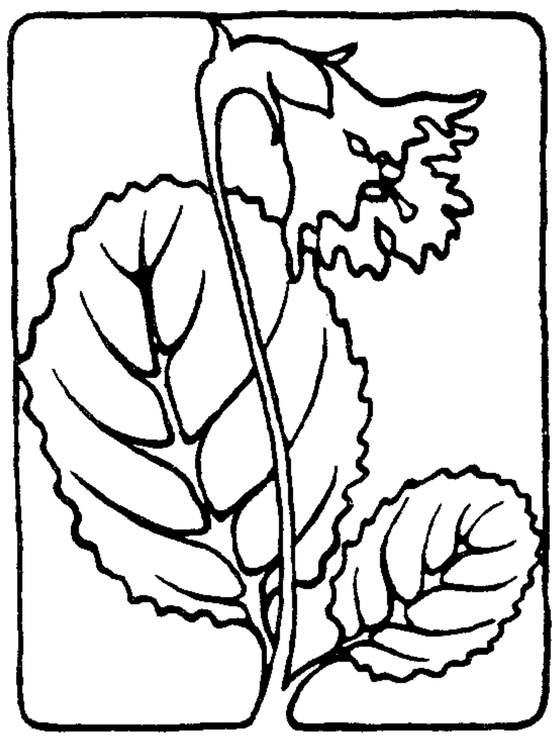
SHORTIA

NEWSLETTER OF THE
WESTERN CAROLINA BOTANICAL CLUB

AUTUMN 1994



ELTON and ALINE HANSENS
Editors

WESTERN CAROLINA BOTANICAL CLUB

President:	Dorothy Rathmann	Treasurer:	Elaine Montgomery
Vice President:	Don Herrman	Recorder:	Erika Parmi
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FROM THE PRESIDENT.....Dorothy Rathmann

On May 28 we had the sad/happy occasion of honoring Tom and Barbara Hallowell for all they contributed to WCBC since its inception. Some 50 Club members were at the party at Carolina Village to wish Tom and Barb well as they move into a new life in their retirement home in Pennsylvania. The affair brought out some "old timers" including Verna Krouse, looking as beautiful and vibrant as ever. The Club's gift to the Hallowells was a memory book created by Aline and Elton Hansens and Jeanne and Dick Smith to which each of us could add a note. Wish I could have kept a copy and that every Club member might have seen it!

Now, a more disturbing bit of news. When we returned to our cars after walking along the Shut-In Trail, Chet and Helen Wright found that someone had broken into their car and taken her purse from the trunk. The Ranger to whom they reported the loss told them that there has been a rash of such burglaries along the Parkway this summer. So -- take your valuables with you on the trail; don't leave them in the car. A nuisance, but also good insurance.

REVISION OF PROGRAM SCHEDULE:

NOV. 11, FRIDAY WORKSHOP: FRUITS OF FLOWERING PLANTS.

Elton & Aline Hansens and Alfred Dupree. Leaders

Blue Ridge Community College, Patton Bldg. Multi-Purpose Room 151 from 1:30 to 4:00 p.m.

SIGN-UP well ahead with the Hansens, 1 (704) 277-2486. Limited to 20 participants.

GETTING TO KNOW YOU.....ALINE HANSENS

Bramlette, Edward & Marian 49 Robinhood Road, Brevard, NC 28712. Moving here from Athens, GA, Edward and Marian have been residents of NC since May of this year. They have great interest in plants and native landscaping. Eager to know about plants of this area, they look forward to club trips. They learned of the club through friends.

Dillard, Jean Roeder Rt.2, Box 102-A. Turnpike Road, Horse Shoe, NC 28742.

Edmonds. Vaughan & Yvonne, 158 Williams Rd., Pisgah Forest, NC 28768. (704) 884-2473.

Goldsmith, James W. P.O. Box 1107, Marion, NC 28803 (704) 652-3000. James lives with his wife and 3 children about 5 mi. from Old Fort. He was born and raised in Marion, NC where he now has a law practice. Around 1970 he developed a "giant curiosity" about plants and in law school he audited Dr. A. E. Radford's graduate taxonomy course, increasing his interest in plants as a hobby. In 1980 mushrooms took his fancy and he now belongs to the N.C. Mycological Assn. and the Asheville Mushroom Club. He learned of the WCBC from Ruby Pharr. He is a busy lawyer but hopes to attend some of our club's outings.

Mills, Jr. Rick & Carolyn 114 Nottingham Rd., Brevard, NC 28712. (704) 884 5298. Rick and Carolyn have owned a house in Sherwood Forest since 1982. In 1992 they decided to make it permanent and moved here from Dallas, TX. Their love for birds and wild flowers drew them to the area. They learned of the WCBC from members living in Sherwood Forest and hope to go on Club trips soon.

Minton, Hugh & Lorraine 19 Kestval Ct., Carolina Village, H'ville 28792. (704) 692-8468. Hugh and Lorraine met in Connecticut where they enjoyed hiking the AT and sharing an interest in the outdoors and nature. They moved to H'ville 1½ years ago from Aiken, SC where they had lived for 40 years. Lorraine is a volunteer at Connemara.

THANK YOU FROM THE HALLOWELLS

To our friends in the WCBC: We want to express again our appreciation for that <u>wonderful, warm, memorable</u> party on May 28. We realized once again what great people WCBC people are--SPECIAL!! And to top off the good refreshments and fellowship, out came that masterpiece notebook. What a treasure of happy memories--good WCBC events, places and people! It even included some lovely notes! We'll look it over MANY TIMES and think of you. Thank you for everything! We will miss the beautiful mountains with their delightful wealth of plants, birds, animals and views.

Our new home will be: 207 Kendal at Longwood, Kennett Square, PA 19348. It's only a mile from Longwood Gardens, two from the Brandywine River Museum (Wyeth), and several from Winterthur Museum, all big attractions. Come 'n see them--and US!

--Tom and Barbara Hallowell

RECORDER'S REPORT - MAY THROUGH JULY 1994.....ERIKA S. PARMI

May and June rewarded us with good weather and nice displays of wild flowers, however, on June 10 the Heintooga trip was cancelled due to rain. In July the weather began to deteriorate with high humidity, high temperatures and rain, although all hikes were made. As a change of pace we visited two gardens, Travis Tracks and Whittemore's Rock Garden, both of which had non-native species. Many of us enjoyed comparing the native species with those of Asia, Europe, New Zealand and other areas. This was particularly true of Whittemore's garden. Many of the participants asked that next year we schedule a trip there in late April when the rock garden would be at its peak bloom.

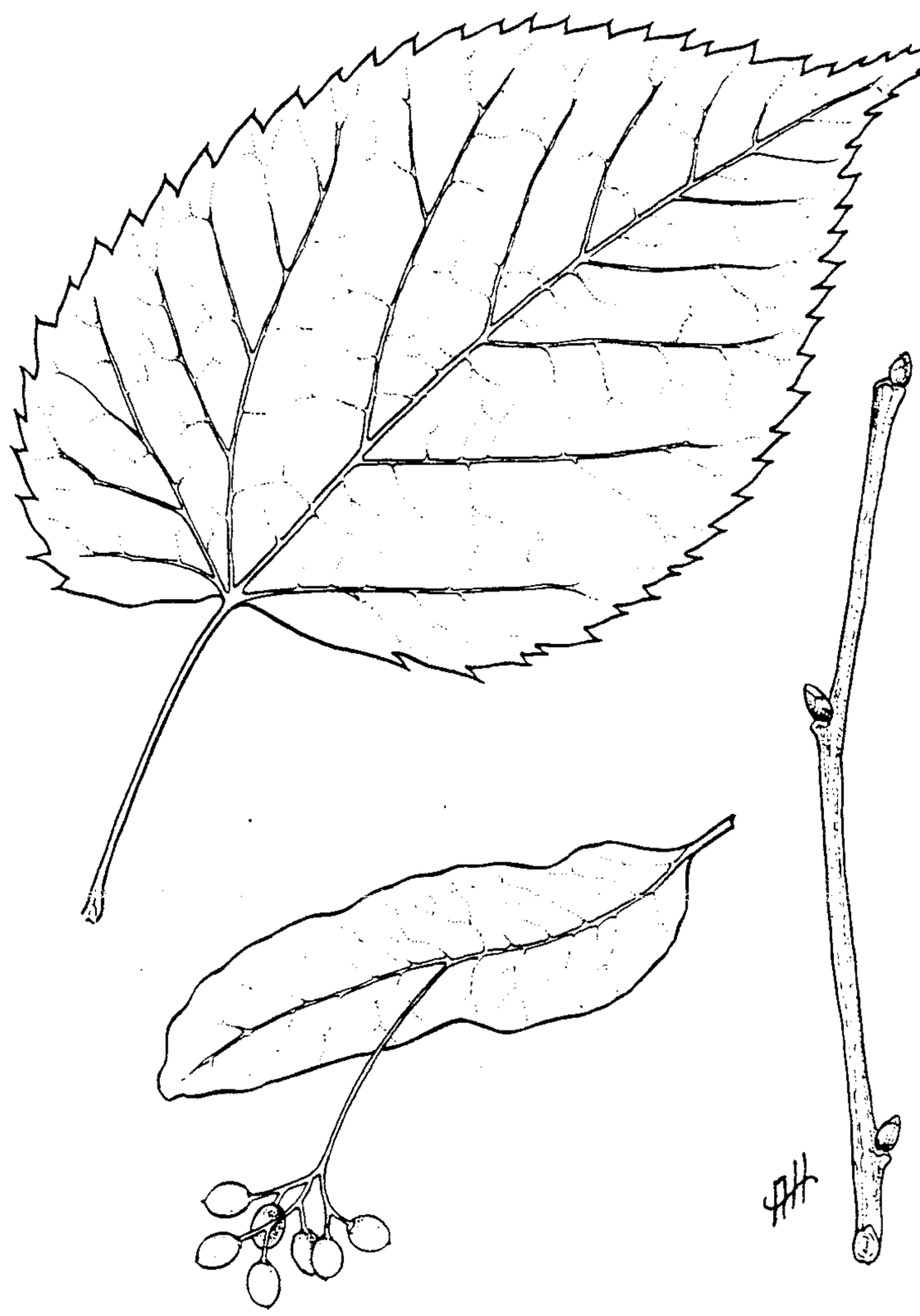
This has been a year of travel for me and the realization that the WCBC has succeeded in teaching me something about the wild flowers of our country. It was gratifying to recognize the genus and sometimes the species of the many beautiful western prairie flowers. Some of the flowers that put on a multi-colored show for me at Theodore Roosevelt National Park in North Dakota were western salsify (Tragopogon dubius) which looked like a huge dandelion, especially its fluffy white fruiting head; the familiar harebell or bluebell (Campanula rotundifolia); leafy spurge (Euphorbia esula); northern bedstraw (Galium boreale) outshone our local species; prickly pear cactus (Opuntia polyacantha) which seemed to be a low-growing compact version of the southwestern prickly pear; purple coneflower (Echinacea angustifolia); yellow prairie coneflower (Ratibida columnifera); scarlet gaura (Gaura coccinea); showy milkweed (Asclepias speciosa); wavy leaf thistle (Cirsium undulatum); western wallflower (Erysimum asperum); several species of penstemon; the outstanding beauty of the western red lily, a deep red and relatively short species related to Lilium philadelphicum; and last, but not least, the white sego lily (Calochortus nuttalli) with striking reddish brown or purple markings at the base of the white petals.

In other parts of the Dakotas I saw beautiful displays of dame's rocket (Hesperis matronalis) which is becoming familiar to us through the NC DOT plantings along our highways; Patagonian plantain (Plantago patagonica) -- a really showy form of our common plantain; blue flax (Linum perenne); pincushion cactus (Mamillaria vivipara) with its striking pink two inch blossoms nestled at the foot of the various prairie grasses; silvery lupine (Lupinus argenteus) just beginning to blossom; the abundant Canada anemone (Anemone canadensis) and various species of milk vetches (Astralgus spp.) ranging in color from white to deep purple. The Nebraska prairie impressed me with its beautiful, low growing prairie roses (Rosa arkansas), prickly pear cactus and a species of spiderwort (Tradescantia) that preferred dry hillsides.

Now I am off to see what the month of August has to offer botanically in the Oregon Cascades!

FOREST TREES.....ALINE HANSENS

BASSWOOD



Basswood, also known as American Linden belongs to the family Tiliaceae. Disagreement among researchers on the taxonomy of the genus Tilia has led to much confusion over the number of species and whether, in fact, they are simply one species with variants.

The southern species found in this area is Tilia heterophylla or white basswood. This is a fast growing, hardy tree, dominant in the cove hardwood forests of the Smokies up to 5000' elevation. It is easily recognized by its basal sprouts which often ring the tree.

The 5" to 10" leaves are fine toothed, somewhat heart-shaped and appear silvery white underneath when riffled by the wind.

The perfect 5-petaled, yellowish flowers hang in clusters suspended from a leafy bract by a long slender stem. Flowers appear after the leaves are fully developed in June of early July. Attracting a barrage of bees and other insects, the fragrant blossoms produce an abundance of nectar from which the bees make choice basswood honey.

In early fall small nut-like fruits litter the ground, their leafy bracts acting like parachutes carrying them beyond the perimeter of the tree.

The dark gray bark of older trees is deeply furrowed into narrow flat-topped ridges with characteristic horizontal cracks.

Basswood is a compact symmetrical tree that may grow to a height of 70 to 90 feet with a trunk 2 to 3 feet in diameter. In the Chimneys Campground area of the Smokies there is said to be a stump measuring 12 feet in circumference, possibly the second largest in North Carolina.

The white to creamy brown wood of the basswood tree is valued for its color, light weight and good woodworking qualities. The bast fibers of its inner bark make strong cords, fish nets, and mats.

PLANTS VERSUS INSECTS ..... Dorothy Rathmann

Plants contain various compounds that seem to play no obvious role in their metabolism. Presumably, their production is genetically programmed. But it is not "for free"; it costs the plant energy which must be diverted from growth and development.

Conceivably, it would be advantageous for the plant to produce such compounds only when needed. During the past 30 years or so, scientists have found that this may actually happen. Plants do not remain passive while being damaged by insects, or herbivores, or humans. They can counterattack.

For example, when an insect chews on a leaf of tomato, potato, or alfalfa, a chemical message travels rapidly throughout the plant, inducing it to synthesize proteins which interfere with digestion in the insect's gut. It may continue to eat, but literally starves, becomes weak and much more susceptible to infections and predators. Or -- A wild potato plant, attacked by aphids, may respond by secreting a compound which mimics the aphid's natural alarm pheromone and they flee as if from a predator. Or -- A tropical ageratum may start making a compound that blocks the insect's juvenile hormone so that the larvae molt prematurely and do not develop properly.

When trees such as oaks, maples, beeches, conifers are attacked by caterpillars, the concentration of phenolic compounds, tannins and resins, increases in the leaves so they become less palatable and much less digestible. The tree also seems to be able to forewarn its close neighbors which are not yet under attack. Gypsy moth caterpillars, for example, grow less well on trees that have recovered from a prior attack or were close to such trees, but grow normally on trees at a distance from the infested one.

And then, there's the fascinating case of a predatory wasp. Parasitic wasps may lay eggs in a living caterpillar to ensure that the emerging larvae will be surrounded by good food. But how does the wasp locate the host? One logical hypothesis is that it detects volatile compounds given off by the caterpillar. And that is true. However, the plant gets into the game, too. As the caterpillar starts chewing on its leaves, the plant starts to emit something which in effect says to the wasp: "Here is the caterpillar!"

Interesting bits of information? Yes! Behind them is serious research which may lead -- possibly by genetic engineering -- to the development of plants more resistant to pests so we will need to use less chemical pesticides.

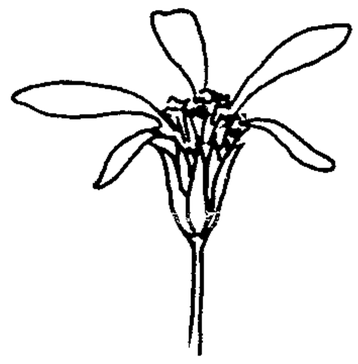
For more detail: G.A. Rosenthal, THE CHEMICAL DEFENSES OF HIGHER PLANTS, Scientific American Vol. 254, pages 94-99 (January 1986). J.C. Schultz, TREE TACTICS, Natural History Vol. 92, pages 12-25 (May 1983). J.H. Tumlinson, W.J. Lewis & L.E.M. Vet, HOW PARASITIC WASPS FIND THEIR HOSTS, Scientific American, Vol. 266, pages 100-106 (March 1993).

LOOK AGAIN !

Among the many yellow-flowered composites occurring in our region are a couple of very tall (6 ft. or more) plants in the genus Verbesina. They may be readily recognized by their stems, which are conspicuously winged by the decurrent bases of the leaf stalks.

Verbesina alternifolia, known simply as Wingstem, has lanceolate leaves arranged alternately, and numerous flower heads in an open panicle. The disk flowers spread widely to form small globose heads, and there are between 2 and 10 drooping rays varying in length from ½" to 1". The involucres have only a few reflexed bracts.

V. ALTERNIFOLIA



V. OCCIDENTALIS

V. occidentalis, Yellow Crownbeard, has opposite, ovate leaves, and its flowers are loosely arranged in an open flat-topped corymb. In this species the disk flowers are erect, the rays number less than 6 and are under 3/4" long, and the involucral bracts are numerous and not reflexed.

A third member of the genus is V. virginica. It also has a winged stem, but there are only 3 to 5 very short rays, and both the disk and ray flowers are white. It is commonly referred to as White Crownbeard.

There are other genera in the Asteraceae with plants having winged stems, but none attains as great a height as these three species.

Dick Smith

S H O R T I A

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Please submit contributions (articles, letters, notes, etc.) for next issue by November 1, 1994 to Elton Hansens, Givens Estates, 125 Far Horizons Lane, Asheville, NC 28803. (Tel. (704) 277-7486.

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