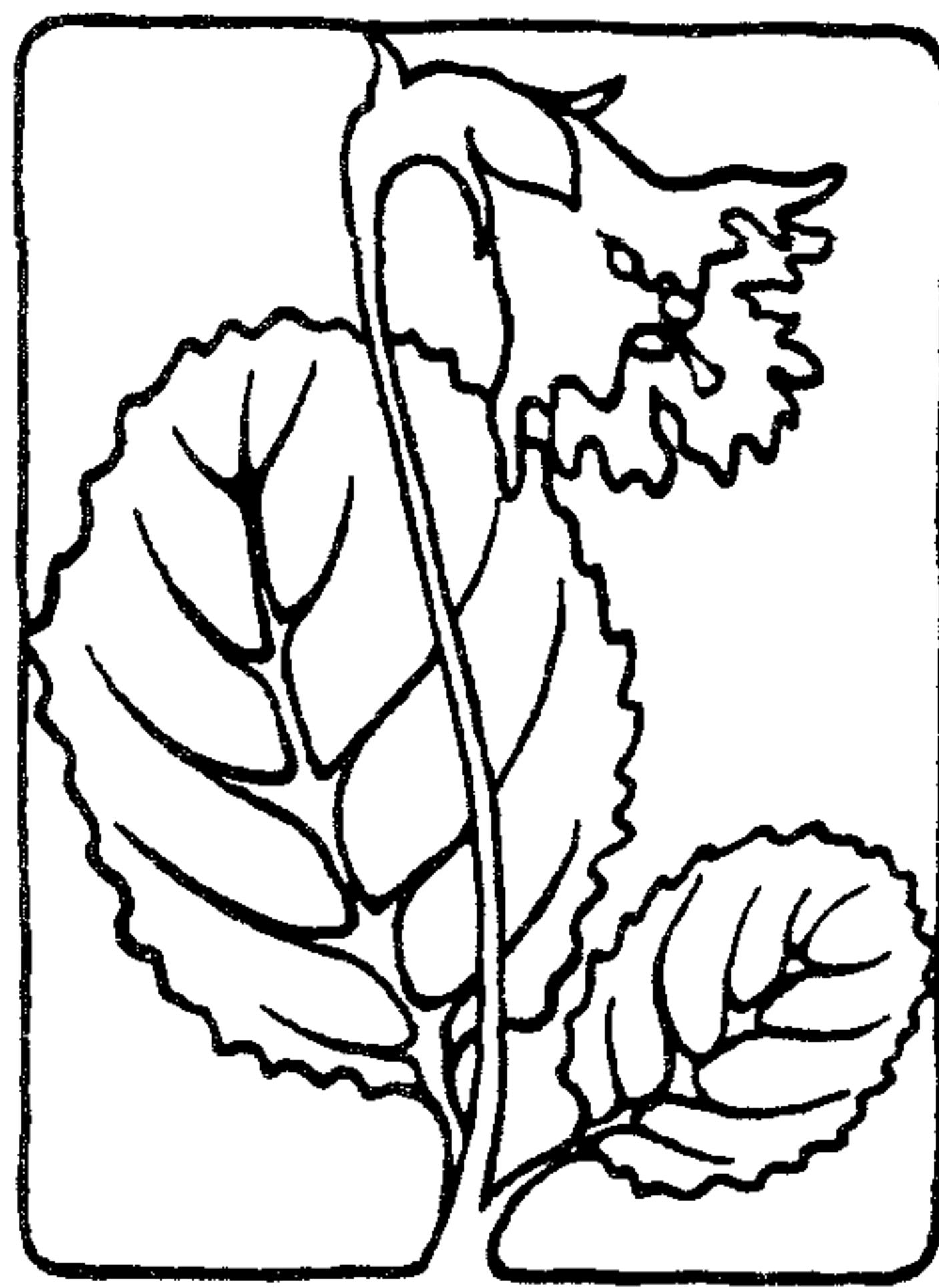


SHORTIA

NEWSLETTER OF THE
WESTERN CAROLINA BOTANICAL CLUB

AUTUMN 1988



DOROTHY RATHMANN, Editor

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FROM THE PRESIDENT'S DESK.....Bill Verduin

I enjoy reading and I'm sure most of you do, too. Sometimes it's the story that holds the interest; sometimes, in nonfiction, we are amazed at truths that are, indeed, stranger than fiction. These discoveries come with surprising frequency when reading in the natural sciences.

But I'm ever on the alert for still another source of pleasure in the written word. Every now and then I come across a choice selection of words and phrases which so beautifully express my own deep feelings -- feelings which I just haven't been quite able to put into words. Such a tidbit I found recently in writings by Gwen Frostic -- words so simple, a thought so profound. Read it slowly, several times.

Let's wander here and there - - -
 like leaves floating in the autumn air
 and look at common little things - - -
 stones on the beach - - -
 flowers turning into berries - - -
 - - - from the winds we'll catch a bit
 of that wondrous feeling that comes
 - - - not from seeing - - -
 but from being part of nature....

VERDUIN HALL NAMED AT KANUGA CONFERENCES.....Elton Hansens

Bill and Evelyn Verduin were surprised people when they were honored at Kanuga Conferences on June 29 with the naming of Verduin Hall at the Boys and Girls Camp. Bill envisioned and built this camp when he was on the staff of Kanuga Conferences from 1950 to 1963. At the close of the 1988 Annual meeting of the Board of Trustees, Bill and Evelyn were presented with a hand-lettered citation honoring them as special people, dedicated contributors to the Conferences. The meeting adjourned for unveiling of the appropriate sign at the entrance to **Verduin Hall**. We congratulate Bill and Evelyn.

1988 MEMBERSHIP LIST

Hendersonville 28739 unless otherwise noted

ADDITIONS (* NEW MEMBER)

- *Devitt, Clayton F. & Barbara M.,
18 Hillendale Road, Asheville, NC 28805.....251-1486
- Galda, Odessa, 601 Carolina Drive, Tryon, NC 28782.....859-6093
- Rieber, Jesse P. & Agnes, 575 Rutledge Drive.....692-9586
410 SW Natura Ave., Deerfield Beach, FL 33441.....305-428-9685

NEW ADDRESSES

- Canfield, Earl & Margaret, Carolina Village Box 197 692-5118
- Keith, Tom & Marion, Carolina Village Box 125 692-4833

SALAD SERVING FORK MISSING

For the Covered Dish Lunch at Holmes State Forest on June 24, Ruth Mack brought a salad and her favorite serving set. Somehow, the fork "ran away" without the spoon and could not be found after the luncheon. If you know the fork's whereabouts, please call Ruth (685-8720). She misses it and will welcome it home!

NEW INSECT COURSE

Elton Hansens will teach a new course titled **INSECTS AND THE ENVIRONMENT** at Blue Ridge Community College from Sept. 27 thru Nov. 15 (8 weeks). The class will meet Tuesdays from 1:00 to 4:00 PM. Color slides, lectures, discussion and field trips will be used in this imaginative course on how insects cope with their environment through specialized habits, structure and adaptations. A wide range of topics will be introduced and questions answered such as: "How do ants find the kitchen cupboard? Can moths see in the dark? Why do mosquitoes always bite me?" **Join us.**

FRED TAYLOR TO SPEAK ON NATURE AND LITERATURE Larry Kenyon

Interested in learning more about the relationship of nature and literature? Plan to attend the Friends of the Library luncheon to hear Fred Taylor talk on this interesting subject. The program will be held Thursday, September 15 at 12 Noon, at Bonclarken. Reservations must be made by September 12. Pick up a reservation form at the library or call Larry Kenyon (697-1835).

Many of us know Fred Taylor as a fellow hiker and teacher. He is a graduate of Carleton College and Union Theological Seminary and is currently working on a PhD from Union Graduate school. His outdoor experiences range from the Pacific Northwest, where he was born, to the Southern Appalachians, which he now calls home. "I can't think of a better place to focus on my goal of studying nature and all that has been written about it," he said. "These mountains, so full of diversity of plant and animal life, have so much to teach, and I'm eagerly learning all I can. Botanical Club hikes have been a major source of my knowledge about the natural history of this area." Let's give Fred our support.

FROM THE EDITOR Dorothy Rathmann

In this issue, you'll find articles by Bill Verduin and Elton Hansens which might be classed as **MUSINGS** — reflections on a nature theme. Other WCBC members have asked if I'd like them to submit items from their reading -- or writing. The answer is **yes**. Of course, there's not space for everything and I know how to "use a blue pencil." But with that caveat, I do hope you will give me or talk with me about items you think could be used in **SHORTIA**.

SWITZERLAND, ANYONE? Larry Kenyon

Several WCBC members have spoken to me about traveling and botanizing in Switzerland. I have been there many times and can put you in touch with a program that provides an apartment in a small town plus support services at a reasonable price. Not a tour, but a Swiss Untour. Let me know if I can help. You should start planning now for 1989.

LET'S TAKE A WALK Elton Hansens

All of us in the WCBC look at flowers as wondrous things but the wonder we see varies from person to person. Some see flowers as things of beauty. They enjoy the harmony of colors and texture and form; the interplay of light and shadow; the majesty of trees; and the ability of mosses and lichens to live on fallen trees or bare rocks. And then there are those who want to know the name of everything and not only the common name but also the scientific name including subspecies and variety if they exist.

Some of us hike looking for new things or the old in new places. We see interrelationships and even know what plants we may enjoy in the deep woods, in a bog, a salt marsh or along a river bank. We know which old friends live together and which are the extroverts that show up in all sorts of places.

Then there are the odd balls, and I am one of them, who see the flowers and their relationships but who also look for the insects, good and bad, and evidence of their presence---leaves tied together with silk, or folded, or chewed in certain ways. We look for the crab spiders and ambush bugs stalking their prey in the blossoms of goldenrod and other flowers.

Other "plant freaks" want to know how the flower is put together and why. They tell you that some flowers are not flowers at all but only call attention to the true flowers and that other flowers are really a whole bouquet of perhaps several hundred flowers.

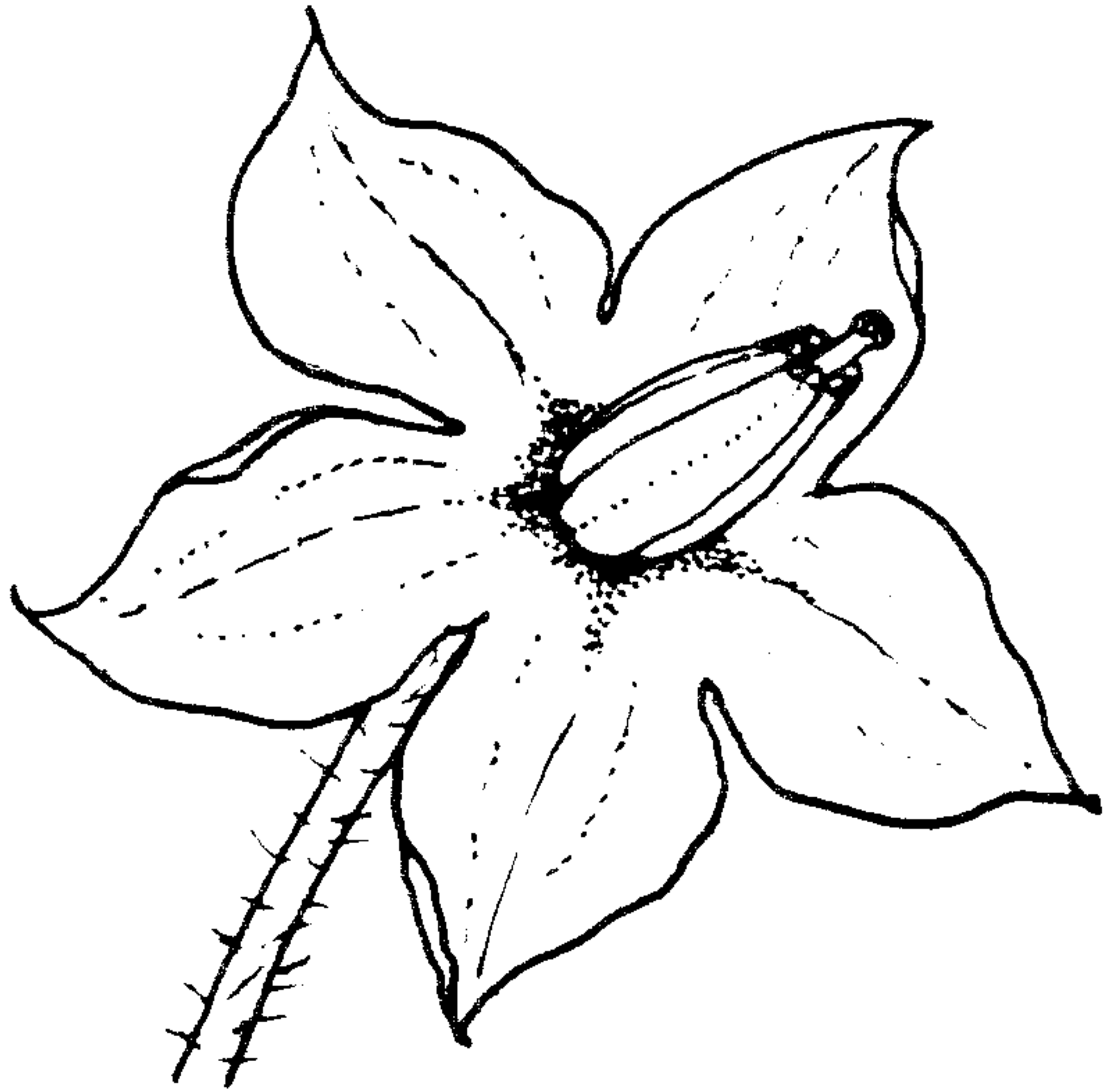
Today let's take a walk and look closer than usual at a few friends. On this misty morning on the Parkway let's walk along the roadside and then venture into more secluded woodland and perhaps even explore a mountain stream or waterfall. Let's go!

Look! Here is a plant that always gives me trouble. I never can remember its common name or its scientific name but I do know that the plant has milky juice--perhaps it's a milkweed or a euphorbia. Both have milky juice. That gives me a clue and I remember that we are looking at flowering spurge. Newcomb p. 202 tells me it is Euphorbia corollata and gives a very neat description: "White flowers 1/4 " wide with 5 roundish petal-like parts (actually bracts surrounding the tiny flowers) in an open cluster." Use your hand lens. You will see the 5 showy bracts with a nectar gland at the base of each. The tiny flowers in the center consist of a single large pistillate (female) flower surrounded by 2 to 15 small staminate (male) flowers. Thus that simple white flower on close examination is a cluster of tiny incomplete flowers surrounded by insect attracting bracts and nectar glands. (See illustration above).



That plant with the white flower about an inch across and with a yellow center has some interesting features. I'll pick one so we can look at it closely. Ouch! The ouch was for a good reason. Look at the spines on the stem, on the top and bottom of the leaves and even on the buds. Our specimen is the Horse

Nettle (Solanum carolinense), and is fairly common on roadsides and in weedy fields.

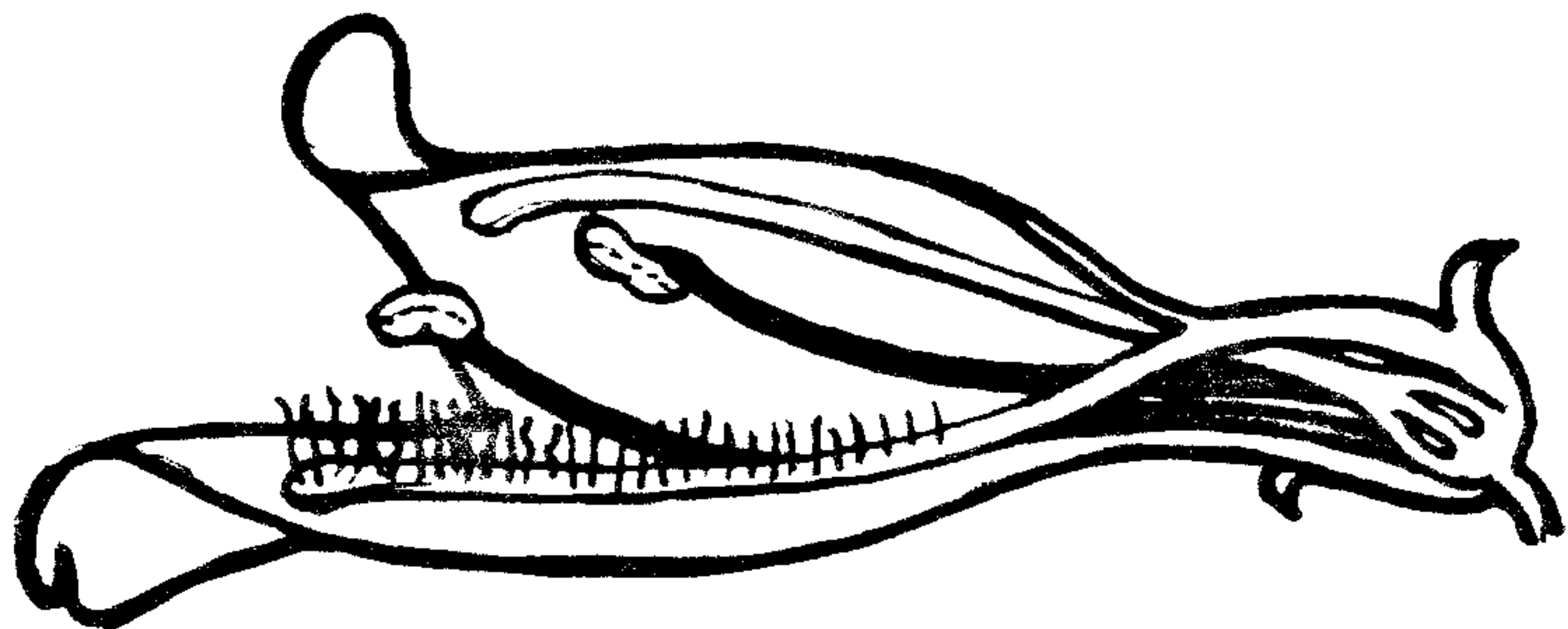


Let's look at the flower which may be either white or purple. From the back we see the 5 pointed sepals extending from a cup-like base. The petals are joined into a 5-pointed star and surround the most interesting feature of the flower, the 5 bright yellow stamens. These are elongate, paired pollen sacs. Your hand lens will reveal a pore at the tip of each sac. These "salt-shakers" distribute the pollen when insects visit the flower. These sacs (anthers), then, are specialized release mechanisms

to assure that pollen is deposited on an insect for transfer to another flower. On the other hand the stigma is a green knob that extends beyond the center of the stamens and is in the perfect position to receive pollen.

Over there, those tubular flowers about an inch long and pale to deep purple colored are the Gray Beard-tongue, Pentstemon canescens, Note the gray downy stems. The prominent corolla is narrow and attached at the 5-pointed calyx. The corolla flares out near the middle into a large throat with 2 lobes above and 3 larger lobes beneath. The corolla is readily pulled off and the style is left behind attached to the ovary and persists even on the mature fruit. We will find the tongue by pulling the corolla apart.

First we see 2 pairs of fertile stamens attached on the corolla near its base. Then we note another long filament with long hairs on its upper side and extending to the lip of the flower. This sterile stamen or staminode is the beard-tongue of the common



name. The remarkable structure apparently functions to ensure that bees encounter the fertile stamens and stigma and it may be somewhat attractive to the insects. I think more beauty exists inside the flower than outside.

There's another interesting plant called spiderwort (Tradescantia virginiana). When you pick a flower you will feel a mucilaginous or slimy sap. The flower is fairly large and very beautiful but you must look closely with a lens to appreciate it. That's all I have to say!

Chimney Rock Park ANNE ULINSKI, recorder



Ptelea trifoliata

It was a very special day for the Botanical Club - May 13, 1988 - when we went to Chimney Rock Park as the guests of Elisabeth Feil, Park naturalist. Elisabeth recently completed her Masters Degree at UNCC and her thesis was based on the floristics and vegetative patterns of Chimney Rock Park. She shared her extensive knowledge of the Park with us and I was fortunate to be able to record much of it. For all those who could not be there, and for those who gave up their places near Elisabeth to me so I could make the recording, here are some of the highlights of the outing.

The massive rock faces at Chimney Rock Park are composed of Henderson Gneiss with an overlay of broken mica schist. The Gneiss takes up little water so what water there is has to come from the rain water running over the top. The mica schist acts as a reservoir and releases water slowly with the result there is constant seepage over the lower rocks. This constant seepage together with the northern exposure and the steepness of the rocks which keeps the sunshine out, creates a cold micro-climate.

On these northern rock faces we saw two unusual plants: the Deerhair Bulrush, (Scirpus cespitosus var. callosus) listed as rare by Radford* and the Biltmore Sedge (Carex biltmoreana). The Deerhair Rush, according to Elisabeth, is a truly arctic tundra plant found in Alaska and Siberia. The Biltmore Sedge, also listed as rare by Radford, is entirely dependent on the cold micro-climate found on the rock face. Another unusual plant is the Fir Club Moss (Lycopodium selago) which is found at Chimney Rock at about 1800 feet, and has never been recorded at that low an altitude in the southern Appalachians. This lycopodium forms a hybrid with Shining Club Moss, and this hybrid is found in the forest at Chimney Rock and is as yet unnamed.

At many places along the trails we saw the Wafer Ash (Ptelea trifoliata). We seldom see this three-leaved shrub and we were fortunate on this day to see it in both flower and seed.

Other unusual plants we saw in bloom were Carey's Saxifrage (Saxifraga careyana), and the Northern Downy Violet (Viola fimbriatula). We saw Spike Moss (Selaginella apoda), Blunt-lobed Woodsia (Woodsia obtusa), Purple Cliff-brake (Pellaea atropurpurea) which grows only in limestone, and the rare Lobed Spleenwort (Asplenium pinnatifidum), a hybrid between Walking Fern (Asplenium rhizophyllum) and Mountain Spleenwort (Asplenium montanum). We saw a tiny specimen of the Lesser Rattlesnake Plantain (Goodyera repens var. ophioides) and growing under some steps on the trail, a grass (Uniola latifolia) which is related to the sea otas. For a more familiar plant, who can forget walking through a bower of Carolina Rhododendrons with blooms ranging from white through pale pink. And there was lunch at the bottom of the waterfall with a fine view of the valley.

Chimney Rock Park is open from March through November, from 8:30 a.m. to 7:30 p.m. daily. Fees are \$7.00 per day for adults, \$4 for children 6-15 years of age and \$12 for a season pass. Snacks are available at the Sky Lounge. A new attraction this year is the Nature Center developed by Elisabeth Feil. A nature trail guide is available with sequenced numbered stops beginning in the parking lot, proceeding to the Sky Line Trail and returning on the Cliff Trail. The park is well maintained and can be recommended for the casual visitor and the naturalist.

*Manual of the Vascular Flora of the Carolinas, by Radford, Ahles and Bell, University of North Carolina Press 1968.

LOOK AGAIN !

Occasionally when keying out two plants that look almost identical we are surprised to discover that they are not close relatives within a single genus but actually belong to different families. This is the case with Aruncus dioicus, a member of the Rose Family and one of several plants known as Goat's-beard, and Astilbe biternata of the Saxifrage Family, which because of the resemblance is called False Goat's-beard.

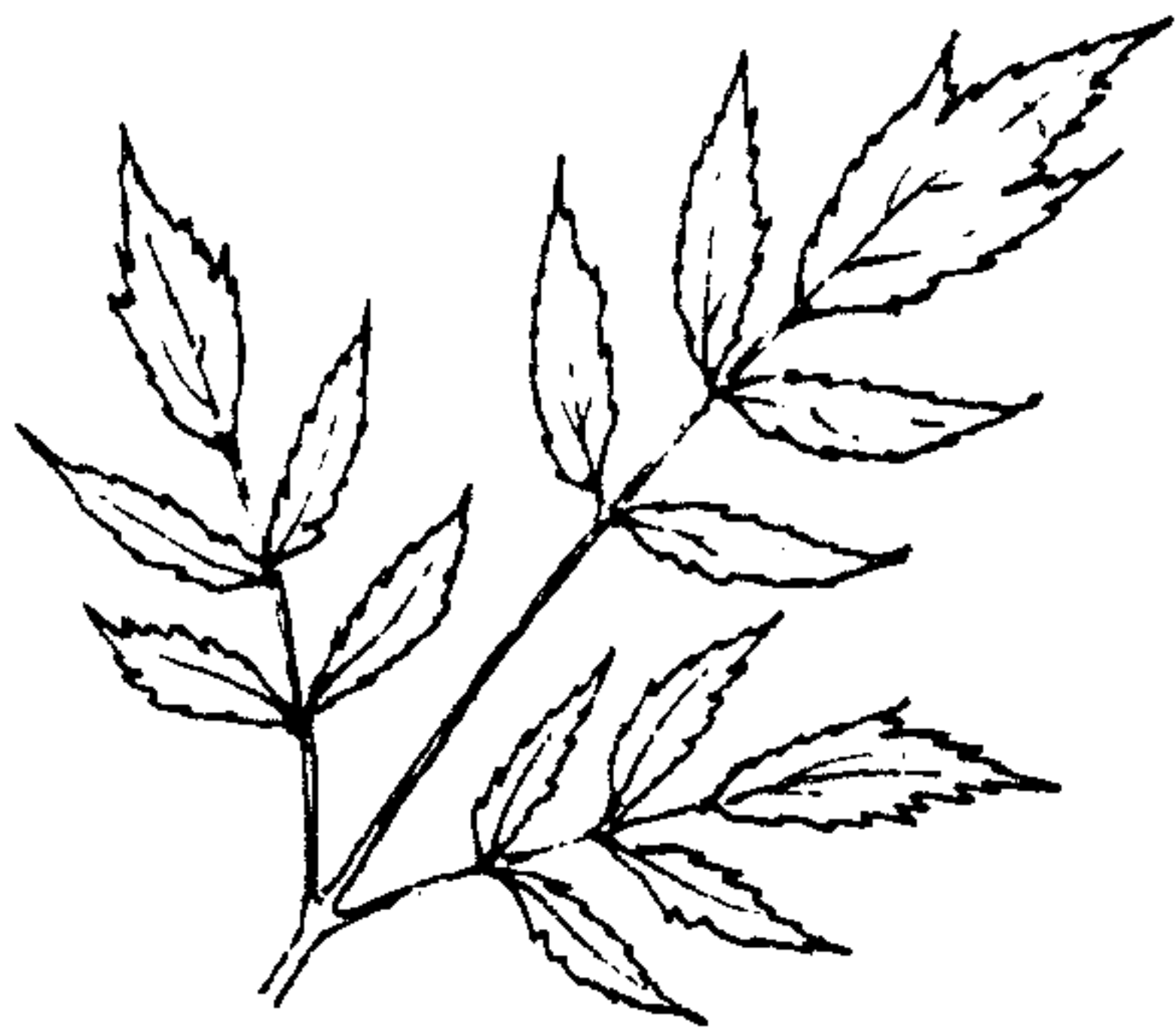
Both species have serrate, bi-ternately compound leaves and large panicles of tiny white flowers. Even at some distance, however, one clear difference can usually be discerned: the terminal leaflet on Astilbe is three-lobed whereas on Aruncus they are uniformly simple. Closer at hand, Astilbe can be seen, and felt, to have glandular hairs on the upper stem and in the inflorescence, as contrasted with the glabrous Aruncus.



ARUNCUS DIOICUS

These are short-cuts, of course, the classification of flowering plants being based for

the most part not on such characters as leaf shape and pubescence but on similarities in floral structure which seem to imply ancestral kinship. This will be evident if we trace these two by means of a key, for it will tell us that, among other criteria, Astilbe flowers have ten stamens while the staminate flowers of Aruncus (it is dioecious) have at least fifteen and frequently more.



ASTILBE BITERNATA

Dick Smith

S H O R T I A

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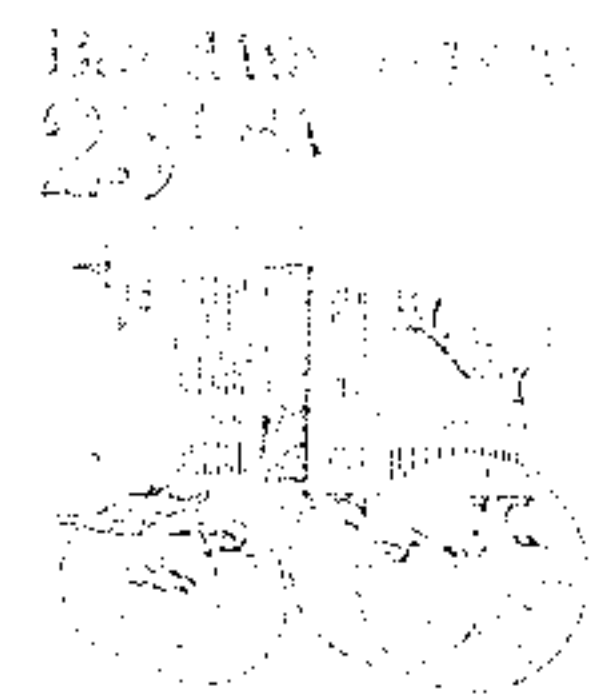
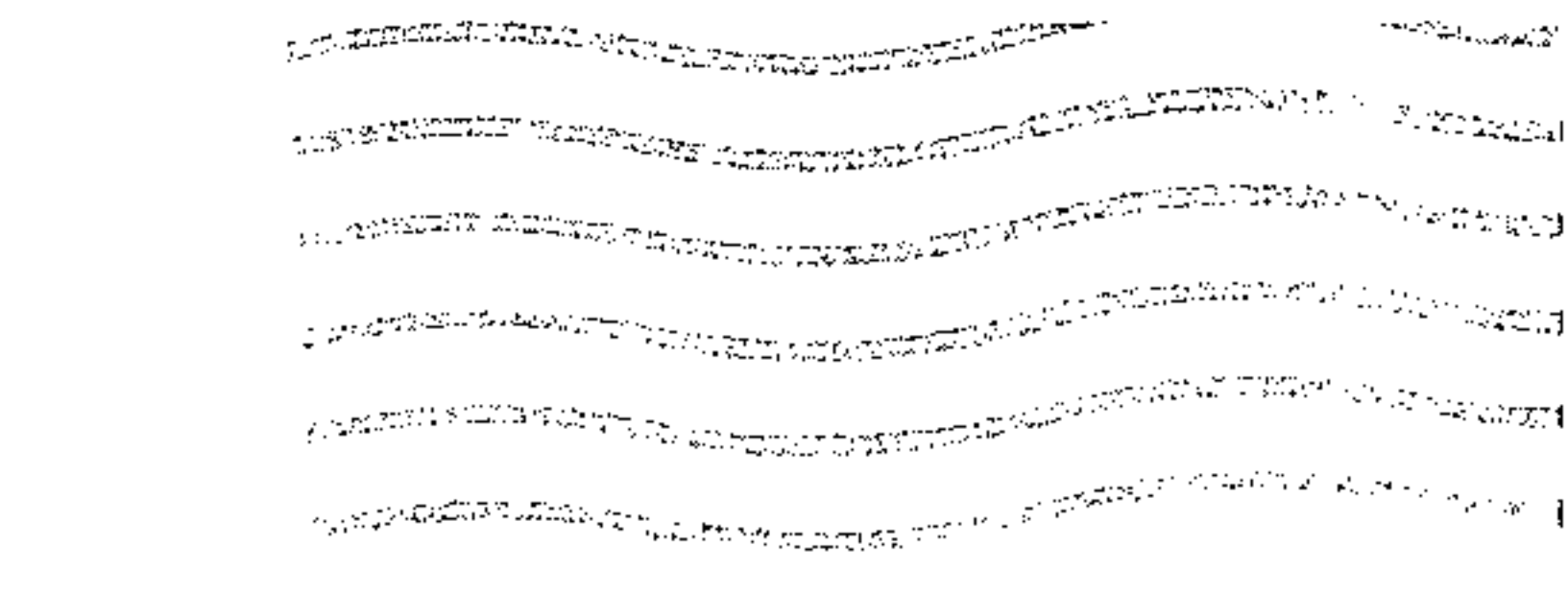
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