

CHINQUAPIN

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Eight (or Ten) More Thoughts about *Castanea* and SABS from the Outgoing President

Howard S. Neufeld

I have been asked to continue the thread of some of my thoughts that were published in the December 2007 issue of *Castanea* about changes being made to the journal. So, here they are along with a few additional thoughts about the future of our society (SABS that is!).

First, I would like to note that the Executive Council voted unanimously to provide 12 free pages per year in *Castanea* to senior authors who are members of SABS. Since the average paper is around 11 pages long, and most authors only submit one paper per year, this essentially eliminates page charges for most members.

To pay for this, we will be using much of the proceeds from our endowment, plus our memberships in JSTOR and BioOne. We will also be reducing society operating costs. We hope this will further encourage prospective authors to consider submitting articles to *Castanea*. Already we have had six submissions in January alone, and if we continue at that pace, we'll end up with over 70 articles for the year!

Second, I think we should consider boosting service to our members. We need to demonstrate more explicitly that there are benefits worth paying for that our members receive, besides just getting *Castanea* and *Chinquapin*. There are a number of ways this could be done. I think additional book reviews, especially of regionally focused books, could be solicited from members. I'm thinking of soliciting for self submissions actually and placing them online where they could be indexed and searchable. We could also link to reviews on Amazon. I'd keep the review short (500 words max perhaps) and be sure there are no conflicts of interest. These could be grouped according to type, such as texts, monographs, guides, and so on. By providing this online outlet, and to make it interactive, more books could be reviewed, more members would actively participate, and it would be a valuable resource for our members.

I would also like to see us do more service by linking ourselves with other regional botanical societies or groups. By establishing these additional linkages, we may bring in new members who otherwise would not consider joining. Consider it a form of portfolio diversification, which any stock broker will tell you is how you stabilize your earnings.

Third, journal publishing is undergoing a transformation, nay, a revolution, as new technologies are developed. This means that as a society

we will continue to face new challenges with respect to the publishing of our journal. One of these challenges could be offering online subscriptions to members. Another involves the concept of open access. Already, one university has asked when we will have an online subscription option. Allan Scherlen, a librarian here at Appalachian State, mentioned to me recently that a new technology is coming down the pike whereby authors will be able to upload PDF files of their publications onto their own university websites, and which would be searchable by data base organizations such as Google, Web of Science and PubMed. We must be prepared to enter this brave new world of online publishing some time soon.

Fourth, we will most likely have to offer a variety of subscription options, including print only, print plus online, or only online. If the costs of maintaining an online journal are not exorbitant, then producing fewer print copies might save us some dollars, but my intuition suggests that the net savings will probably be miniscule to nonexistent. This would be an example of offering greater service to our members, but not necessarily in the context of saving dollars.

Fifth, there is a rising clamor to have open access—that is, to make our articles freely available to anyone via the web as HTML or PDF files. This of course, raises serious concerns about whether such a move can be made without jeopardizing the SABS itself, especially if the majority of members view getting exclusive access to *Castanea* as their main benefit of being in SABS. We already make our articles immediately available online to any institution that subscribes to BioOne, and soon we will have a link on our web page (watch for future announcements) that will allow each SABS member to access *Castanea* through BioOne, thus giving our members online access to all of our recently published articles.

Sixth, if our author submissions continue to decline, we must consider taking a hard look at the scope of articles that we now publish. We may want to consider expanding our coverage to all of North America, or the entire western hemisphere, or go global. Although we are a regional journal, and will always publish regional articles, we must consider whether we should bolster our authorship by bringing in botanical articles from a larger geographical area. Some of our recent issues have been so thin that we have had a tough time printing the name of the journal on the spine! This should not be the case. I would rather we be turning away articles than having too few!

Seventh, I want to reiterate that we need submissions spanning a broader array of botanical topics. While floristic surveys and com-

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From The Editors Desk

Chinquapin has a new editor and a new look if you haven't already noticed. Since SABS members are excellent observers of the world, you have noticed.

Dan Pittillo has been the only editor *Chinquapin* has known and in his able hands it has become an important part of SABS. He casts a long shadow any successor must recognize. It is then with a bit of trepidation that I take on the "pen" from Dan.

A bit about me for those who wonder "who is this guy?" First, I am *not* a professional botanist. I am not associated with any college or university or even employed in a botanical job. With that out of the way, why do I want this job? I love being in nature and being able to observe and recognize the organisms and the phenomena around me and communicate that with others.

In what seems like a long-gone era, I got my Bachelor's degree from Humboldt State University in Arcata, California in Forestry (D.K. Smith and I shared one semester but did not know each other). I proceeded to the University of Oregon for a Master's in Recreation and Park Management.

While in the Pacific Northwest I was a Park Ranger at Crater Lake National Park—yes, I was "Ranger Ranger". In 1973 I left the west and moved east to Kentucky where I was the Director of Union College's Environmental Education Center (now defunct) at Cumberland Gap National Historical Park.

While there, "I met my wife in a cave in Kentucky" is the story line. Annette and I accompanied high school students to a National Park Service environmental education conference at Mammoth Cave National Park and actually met inside Floyd Collins cave.

We married and moved on to suburban Philadelphia where I had the wonderful opportunity to direct a community nature center. Briar Bush allowed me to become part of the community and the community a part of the nature center. This is a very different experience than the fleeting interaction with visitors in a National Park. It remains a highlight of all that I have done.

With our first child, we moved to my wife's home town of Atlanta and have been here nearly 30 years. We joined the Georgia Botanical Society (BotSoc) and almost immediately I was elected to the board and served as *BotSoc News* editor for nine years and *Tipularia* editor for two and lead field trips all over Georgia. Annette and I have been trip leaders for the Great Smoky Mountains Wildflower Pilgrimage for 18 years, a job we got through a notice in *Castanea* in 1989.

During my time in Atlanta I've done a number of things including operating my own radon testing business and managing a small print shop where I learned graphic design, professional software and the grunt work that goes into printing. I discovered that nothing printed is ever perfect. So don't expect *Chinquapin* to be perfect! Many thanks to Conley McMullen for his "eagle eyes" on this issue!

What can you expect for *Chinquapin*? More of the quality that you've come to expect from Dan. Several popular items will continue. George Ellison's "Botanical Excursions" are always enjoyable and the "Mystery Plant" may be the single most popular innovation Dan tried. He's staying on with that much smaller role. Alan Weakley has volunteered to help keep us all informed on taxonomic changes in the eastern United States. Linda Chafin will begin a series on rare plants of the east. For this issue I've begun a "Field Notes" column for sharing in the field experience. With only four issue per year, I expect many "field notes" to come in from SABS members!

Color may be the biggest visual change. Each issue will now be available as a PDF file with full color, something cost prohibitive for the print version.

I've got a tough hide, so let the comments roll!

Scott Ranger



Botanical Excursions

by George Ellison

One of the more interesting and entertaining early accounts of the topography, flora, fauna and other aspects of the southern Appalachians is contained in a diary kept by surveyor John Strother, who in 1799 was appointed one of the surveyors for determining a portion of the boundary between Tennessee and North Carolina.

According to the Dictionary of North Carolina Biography, 5 (UNC Press, 1994), Strother was born in Culpeper County, Virginia. After becoming a surveyor, he traveled in the mid-1780s to Georgia, where he became involved in a plan to secure a large tract of land at Muscle Shoals in the Bend of the Tennessee River. When that didn't work out, he moved to southeastern North Carolina. By 1795, he was surveying and mapping lands there totaling more than 850,000 acres owned by John Gray Blount. He subsequently surveyed and mapped other holding throughout the Piedmont region of the state and the eastern fringe of the Blue Ridge. He was apparently living in Asheville at the time of his death in 1815.

Of particular interest in these excerpts from Strother's diary are his descriptions of an encounter with a large rattlesnake (which he describes as a "rattlebug"), the extensive grassy balds at Roan Mountain, and the "pictures" he claims to have seen at "Painted Rock" (i.e., Paint Rock) in 1790 that were no longer visible in 1799. The name of the settlement on the French Broad River then known as Warm Springs was changed to Hot Springs in 1886. The text is reproduced here as it appears in Strother's diary.

May 12th, 1799 - Set out from Asheville, Buncombe County, in order to meet ye commissioners appointed by the State of North Carolina to run the line between the state & ye state of Tennessee. At Capt. Robt. Nalls on New River where I arrived the 17th instant, met with Major Mussendine Matthews, one of the Commissioners, his son & Mr. Robt. Logan, chain bearers & markers waiting the arrival of Genl. Joseph McDowell & Col. David Vance, the other two commissioners & the rest of the company . . .

Saturday, June 1. After being much refreshed from our last night's rest we eat a hearty breakfast. Started and continued ye state line along the extreme height of ye Stone Mn in the course of one mile. Seen a very large rattlebug; attempted to kill it, but it was too souple in the heels for us. Continued about 2 m further, took several observations of ye Yellow Mn. Ground very rough. Came to Wattaqa River at a very rocky place, crossed on rocks and proceeded near one mile where we encamped on a handsome eminence near a good spring. One of our party turned out and killed a two-year-old she bear. Very poor. Upon which and some bacon stewed together with some good Tea and johnny cake we made a Sabbath breakfast fit for a European Lord . . .

Thursday, June 6th - A plesant clear morning. Slep sound & comfortable last night. Had no gnats to trouble us. Breakfast on short allowance and set out on the line at 7 o.c. Went about 2 m to the top of the Yellow Mn 1/2 m from ye Yellow spot on a course N.W. by W. at Bright's path, then went to ye Yellow spot in order to take observations, but was disappointed by a hard

thunderstorm. The lightning and thunder was so severe that it was truly alarming. The trees at this place is just a-creeping out of there winter's garb . . .

Saturday, 8th - A pleasant fair morning. We packed up and proceeded on with the line, 4 to 5 m. crossed a high spur of the Roan Mn to a low gap therein where we encamped at a pleasant Beech flat & good spring. Spent the Sabbath day on taking observations from the high spur we crossed, in gathering the fir oil of ye Balsam of Pine which is found on this mountain, in collecting a root said to be an excellent prevention against the bite of a Rattlesnake, and in viewing the wonderful scenes this conspicuous situation affords. There is no shrubbage grows on the tops of ths Mn for several miles, say 5. The wind has such a power on the top of this mountain that the ground is blowed in deep holes all over the northwest sides. The prospects from the Roan Mn is more conspicuous than from any other part of the Appelatchin Mns . . .

Wednesday 12th - Spent last night agreeable. Was entertained with some good songs, then slipped ourselves up in our blankets sleep sound till this morning. Arose, eat our breakfast, packed up & started the line. Colo. Vance & Neely went to the Limestone settlement for a Pilot. Returned to us at the line at 2 o.c. with a Mr. Collier Pilot & two gallons whiskey. We stopped, drank our own health & proceeded on the line. Ascended a steep spur of the Unaker Mn. Got into a Laurel thicket, cut our way some distance. Night came on. We turned back and camped at a very bad place, it being a steep Laurelly hollow, but the whiskey had such miraculous powers that it made the place tolerably comfortable . . .

Thursday 27th. - This morning cloudy and hasey. The commissioners being anctous to get on to the Painted Rock started us early. Went on with the line a wrong ridge and fell in another fork of Paint Cr. Returned & encamped on the right ridge where we spent our time uncomfortable this evening.

Friday, 28th. - Set out very early and proceeded on the line about 4 m to the painted rock on FB River, about 5 m below the Warm Springs. Measured the height of the rock & found it to be 107 feet 3 inches high from top to the base. It rather projects over the face of the rock; bears but few traces of its having formerly been painted, owing to its having been smoked by pine knots and other wood from a place at its base where travelers have frequently camped. In the year 1790 it was not much smoked; the pictures of some humans, wild beasts, fish & fowls were to be seen plainly made with red paint, some of them 20 & 30 feet from its base . . . We then went up to the Warm Springs where we spent the evening in conviviality and friendship.

Saturday, 29th. - The company set our for home to which place I wish them a safe arrival and happy reception. As for myself, I stay at the Springs to get clear of the fatigue of the Tour.

Editor's note: An 1808 map of North Carolina by Strother and Jonathan Price is currently being offered for sale at \$145,000! [http://www.ilab.org/db/book1700_19581.html]

Taxonomic Advisory

by Alan Weakley

The break-up of *Saxifraga* and the Saxifragaceae: the “Stonebreakers” are themselves cloven

Note: The following is the first in my series of “taxonomic advisories” intended to keep the readers of *Chinquapin* abreast of the many proposed taxonomic and nomenclatural changes affecting our flora. Many of these changes appear initially in technical and often international journals to which most of our readers have little access, and the changes often take years or decades to appear in the local or regional floras that are the main resources used by most botanists for identification and knowledge of our flora. The intent of these “taxonomic advisories” is to explain in nontechnical terms the changes being proposed. Topics selected will generally be cases where the evidence and reasoning for the change seem very strong, and the taxonomic changes therefore very likely to be widely accepted. But, there is no warranty! A messy glory of science is that there is no Grand Committee that Decides who is “Correct” or “Right;” only the test of time and the consensus of the scientific community ultimately judges the acceptance of a new taxonomic proposal.

Many of us are still absorbing the transfer of all of our eastern North American native *Aster* species to other genera (*Symphyotrichum*, *Eurybia*, and others) following the recognition that New World asters and Old World asters (which have nomenclatural precedence for unchangeable reasons of colonial history) are not closely related. Now, we must face the fact that our eastern North American *Saxifraga* species all belong elsewhere, as well (except a few boreal/alpine species of eastern Canada and northern New England). Though affecting fewer species, the changes in the species names of such a familiar and well-loved genus as *Saxifraga* have a strong psychological effect. Luc Brouillet and Richard Gornall (2007) have recently made the remaining necessary nomenclatural combinations preparatory to the account of Saxifragaceae in the upcoming Volume 8 of the *Flora of North America*.

Saxifraga has long been recognized as a large, polymorphic, and complex genus, primarily distributed in the northern hemisphere of Eurasia and North America, and partial to mountainous and arctic-alpine areas. The name means “stone breaker” and refers to the rock crevice habitat of many *Saxifraga* species and the suggestion that *Saxifraga* plants break rocks apart with their roots, but, which came first, the soil-filled crevice or the plant? To those of us who know *Saxifraga* only from eastern North America, it is a revela-



Micranthes petiolaris (Rafinesque) Brouillet & Gornall

USDA-NRCS PLANTS Database / Britton, N.L., & A. Brown. 1913. An illustrated flora of the northern United States, Canada and the British Possessions. Vol. 2: 221.

tion to take a trip to mountainous areas of Eurasia, to walk through an extensive rock garden collection, or make a virtual tour of saxifrage diversity by visiting the website of the Saxifrage Society or conducting an internet image search for “*Saxifraga*”: yellow- and red-flowered *Saxifraga*, mossy-leaved little cushion plants, plants resembling *Sedum* or *Diapensia* or *Minuartia*! Division of *Saxifraga* into smaller and allegedly more natural units is not new, and one significant segregate, *Micranthes*, was named as a genus in 1812 by Adrian Hardy Haworth (1768-1833) and often since regarded as a subgenus or section. Though generally ignored by North American botanists, this segregate was accepted in the early 20th century by Per Axel Rydberg and John Kunkel Small, partners in (what were considered by the Harvard-based botanical elite of the time) many taxonomic crimes. Small’s Southeastern floras (1903, 1913, and 1933) have no *Saxifraga*, but recognize most species as *Micranthes* and one (“*Saxifraga michauxii*”) as *Hydatica*. Molecular and morphological differences now make clear that “Small was right!” (a phrase which is becoming something of a refrain among Southeastern United States botanists), as molecular phylogenetic work shows *Micranthes* in a clade with (and therefore more closely related to) *Heuchera*, *Astilbe*, *Boykinia*, *Chrysosplenium*, and others—a clade distinct from the main groups of *Saxifraga* (and its type species) [Soltis *et al.* (2001)]. For those skeptical of “molecular systematics” divorced from morphology, many morphological differences separate the two genera, including differences in hypanthium, seed, pollen, and others.

At a higher taxonomic level, it is also worth noting that the family Saxifragaceae has also been split (see below), at least as regards most eastern North American floristic treatments in the last half of the twentieth century, including the primary flora in use in the southeastern United States for the past 40 years, Radford, Ahles, & Bell (1968). Once again, there is a “Small was right!” aspect to this, with his recognition of 5 families in what RAB treated as a very broad Saxifragaceae, and 2 families in RAB’s Crassulaceae. Small’s (1933) treatment corresponds almost exactly with the Angiosperm Phylogeny Group’s (2003) treatment of *Lepuropetalon* and a nomenclatural change from Sedaceae to Crassulaceae. The molecular results have confirmed what careful morphological work suggested long ago—that components sometimes included in a broad Saxifragaceae are unrelated, in some cases very distant, belonging to different orders or even in different major evolutionary clades from the core of Saxifragaceae. And, come to think of it, did it ever really do us any good trying to think of *Philadelphus* as a saxifrage? *Continues on back page*

| Example genera | FAMILY | | | | | ORDER | MAJOR CLADE |
|---|-----------------|-------------------|------------------|-----------------|---------------|----------------|----------------------|
| | Small 1933 | R, A, & Bell 1968 | Cronquist 1981 | Takhtajan 1997 | APG 2003 | APG 2003 Order | APG 2003 major clade |
| <i>Sedum</i> | Sedaceae | Crassulaceae | Crassulaceae | Crassulaceae | Crassulaceae | Saxifragales | "Basal Rosid" |
| <i>Penthorum</i> | Penthoraceae | | Saxifragaceae | Penthoraceae | Penthoraceae | | |
| <i>Ribes</i> | Grossulariaceae | Grossulariaceae | Grossulariaceae | Grossulariaceae | | | |
| <i>Itea</i> | Iteaceae | Iteaceae | Iteaceae | Iteaceae | | | |
| <i>Heuchera</i> , <i>Mitella</i> , <i>Micranthes</i> , etc. | Saxifragaceae | Saxifragaceae | Saxifragaceae | Saxifragaceae | Saxifragaceae | Celastrales | "Rosid I" |
| <i>Lepuropetalon</i> | | | Lepuropetalaceae | | Parnassiaceae | | |
| <i>Parnassia</i> | Parnassiaceae | | Parnassiaceae | | | | |
| <i>Philadelphus</i> , <i>Hydrangea</i> | Hydrangeaceae | | Hydrangeaceae | Hydrangeaceae | Hydrangeaceae | Cornales | "Basal Asterid" |

Rare Plants

by Linda Chafin

Swamp Pink

Greetings, *Chinquapin* Readers! This is the first in a new series devoted to rare plants of the Southern Appalachians and surrounding regions of the eastern U.S. These articles will usually focus on species that are of interest throughout a large part of the region; some will be species common in some areas of the eastern U.S. but rare in a remote corner or two. There will be occasional forays into the world of the narrowly endemic and habitat-specific. I have a special interest in plants that are adapted to demanding environments—such as rock outcrops, sand ridges, and bogs—so look for an emphasis on these intrepid pioneers and survivors. Please let me know if there are species you'd like to see addressed or if you have additional information or corrections to what has appeared in this column. My email is Lchafin@uga.edu.

I couldn't think of a better species to inaugurate this series than swamp pink (*Helonias bullata* Linnaeus), that early blooming beauty of mountain bogs and coastal plain swamps.

Once known from a big stretch of the Atlantic seaboard—from Georgia to New York—it is now in trouble almost everywhere in its range. It was listed as threatened by the U.S. Fish and Wildlife Service in 1988, and every state where it occurs (with one exception) ranks it as imperiled or critically imperiled. Swamp pink currently thrives only in New Jersey, and there are populations in Delaware, Maryland, and North Carolina with thousands of stems (counting plants of a species that spreads by rhizomes is a tricky undertaking). South Carolina's only population is protected on a Heritage Preserve; Georgia's single extant natural population is in serious trouble on private land.

Where its boggy habitat is intact, the swamp pink flourishes. It grows in peaty, acidic soils and depends on year-round seepage to keep the soil wet but not inundated. When its boggy habitat is destroyed—primarily by ditching and draining to make way for development—there is no turning back the clock for swamp pink. Bogs are difficult to recreate once their hydrology has been lost.

Swamp pink is a perennial herb, forming large colonies of overwintering rosettes. New leaves appear in the early spring and continue to enlarge during the spring and summer. The glossy leaves are 9 - 30 cm long and up to 4 cm wide, with pointed tips and tapering bases. Stout, hollow flower stalks emerge in early spring, reaching 30 - 60 cm while in bloom, and continuing to lengthen while fruiting. The inflorescence is a showy spike about 3 - 8 cm tall with 30 - 50 fragrant, pink flowers, each about 1 cm wide, with 6 pink tepals and six blue stamens. The fruits are 3 - 5 mm long, 3-lobed, heart-shaped, and

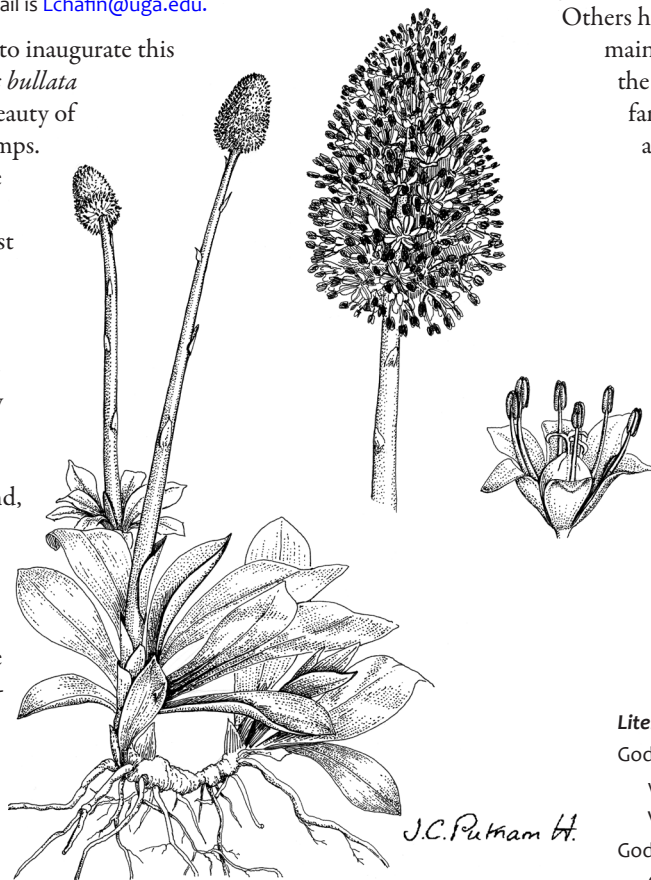
papery, with many winged seeds. Swamp pink reproduces primarily by the spread of rhizomes; fewer than 15% of plants in a swamp pink population flower in a given year.

Swamp pink has a high level of seed set, with both self-pollination and cross-pollination producing abundant seeds. The seeds are dispersed by water, gravity, and ants, which are attracted to the fatty appendages (elaiosomes) on the seeds. However, high seed set and germination rates are offset by low numbers of flowering plants, low seedling survival, and a slow growth rate. As a result, swamp pink relies primarily on vegetative reproduction for its survival.

Swamp pink is the only member of the genus *Helonias*, although some researchers have suggested that two Asian genera, *Heloniopsis* and *Ypsilandra* should be combined with *Helonias*.

Others have suggested that the three genera be maintained and grouped into a separate tribe, the Heloniadeae, or even placed in their own family, Heloniadaceae. While these issues are still up in the air, one thing seems clear: swamp pink is no longer a lily.

Linnaeus placed *Helonias* in the lily family (Liliaceae) based on specimens collected in the mid-1700s by Peter Kalm, probably in New Jersey. Recent studies have shown that the numerous genera in the large and diverse lily family are better understood when treated as several smaller, more homogeneous families. *Helonias* is probably best included in the Melanthiaceae, a family that now includes some familiar Appalachian and Coastal Plain "lilies" such as *Amianthium*, *Chamaelirium*, *Schoenocaulon*, *Stenanthium*, *Veratrum*, *Xerophyllum*, and *Zigadenus*.



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Field Notes

by Scott Ranger

Triphora trianthophora (Swartz) Rydberg
var. *trianthophora*, three birds orchid,
nodding pogonia, nodding ettercap.



For some reason I've yet to understand, the drought summer of 2007 was a banner year for the ephemeral little three birds orchid. Reports of it blooming came in from all over the southeast in larger numbers than usual. These are notes I took August 14 at Picketts Mill Battlefield Historic Site in Paulding County, Georgia.

Today is a follow-up of our (Georgia) BotSoc survey trip of August 4 to assess the status of the *Triphora trianthophora* at the Pickett's Mill Creek bridge site and to show Tom Patrick where the plants are. Tom, Mike Christison, Jim Drake, Steven Redmond from the park and I met at the site. Steven and I completed a thorough search and count of all the plants and I made a sketch of where they are in my field notes.

The plants are all on a flat, floodplain terrace about four feet above Pickett's Mill Creek at an elevation of 900 feet below ridges that reach 1,075 feet. The slope to the creek from the southwest along the trail is 18%. The area is mapped geologically by Higgins *et al* (2003) as the pegmatitic biotite-muscovite-quartz-potassium feldspar Stonewall Gneiss. The ridges and most flat areas have extensive quartzite "floaters" in the soil but I find no outcrop of quartzite with a root. The quartzite is bright white unlike the milky orange color of most of the Chattahoochee Palisades quartzite. The bottoms of the ravines are either a dark biotite gneiss or a mica schist that when broken to show fresher minerals includes about 50% dark minerals like amphibole. The rocks in the creek itself are very dark, likely due to manganese that has precipitated out from the water.

The soil on the terrace is dark gray and rich while quite sandy. The humus layer is between one and three inches thick including leaf litter. I made two readings with my Kel Soil Meter which measured pH 6.5 and 6.6.

The weather has been dry and hot. Atlanta has received about half the normal rainfall for the year and Steven reports that only a trace of rain fell at the park on Sunday, August 12. The last significant rain fell on the 15th and 20th of July, both under 0.5 inch. The past week has seen five days exceed 100°F and a record minimum of 82°F at Hartsfield-Jackson International Airport August 8 made the average temperature 86.7°F, 6.9°F above normal, for the first 13 days of August. Pickett's Mill Creek is flowing at about half the size of our visit on August 4. This being said, none of the plants on the floodplain appeared to be stressed except for the group of three birds directly on the trail. Steven

reports that he watered them yesterday when he checked on the plants.

The habitat is mostly deep shade with a mix of deciduous and pine trees. The dominant deciduous tree is *Liquidambar styraciflua* followed by *Liriodendron tulipifera*. Notably there is a 10 meter tall young *Magnolia macrophylla* and many ground sprouts. Many 1-2 dm *Carpinus carolinianus* are scattered about. There is one *Juglans nigra* about 6.5 dm dbh. I find it curious that the largest group of orchids is within 3 meters of this tree, a species that is known to be allelopathic with juglone. Perhaps the chemical is washed away from the sandy soil each time the water reaches this level. The pines are all *Pinus taeda*. There is little woody growth on the terrace and the invasive *Microstegium vimineum* is the dominant forb.

There are 291 stems in 26 groups. The smallest groups, six of them, had only one stem. The largest group had 73 stems scattered about an area of about three square meters that could be broken down into several discreet clumps making the "group" number very much an estimate.

We did not make a count of flowering stems, but they were few, and none open completely. Only three flowers had a well-developed lip with the green lines. No flowers were upright. Virtually every stem had formed multiple—usually three to six—buds, and many stems were only 2.5-5 cm long apparently just having arisen from the underground tuberoid. We were at the site for approximately three hours and did not see any opening of the flowers. Tom, Steven and I made a loop on the trail east of the creek and returned about two hours later and found the flowers to be in exactly the same condition as we left. One plant had a well-developed capsule about 1 cm long with dried up petals still hanging on (photo top of page 7).

One curious observation I made is that at virtually every group there are several to numerous *Sceptridium bitematum* (syn = *Botrychium bitematum*) growing closely to the *Triphora* and mostly in the same stage of eruption. A few (under a half dozen) of the ferns were sporulating but most had just erupted. Are they synchronous with the *Triphora*???? Do they have any biological connection with them???

The *Triphora* plants emerge from the ground with leaves and buds already formed, as we see this on the several 2.5-5 cm tall plants. They simply enlarge everything as they grow. Perhaps 20% of the stems



were nearly the size of a Number 2 pencil, and this is one of the reasons Tom checked off “robust” on his worksheet. Less than a dozen stems were small and spindly. At the group of 16 we decided to “sacrifice” one stem for a voucher (photo below). When I pulled a 6 cm diameter by 45 cm long log away from the group, we discovered that these stems arose from tubers under the log and had grown around it! The healthy stem away from the group proved

easy to dig around with my pocket knife and we found the tuberoid to be about 40 mm long x 10 mm wide and 4-5 cm deep into the soil. Many tiny (~1 mm?) very fragile rootlets come off the tuberoid as I lift it out of the loose soil.

My search for information on this species led to mostly anecdotal claims of phenology. Claims of synchronicity of blooming, blooming for only one day, and lack of pollinators are all unsubstantiated. I found two versions of a serious study by Jennifer M. Ramstetter, Professor of Biology at Marlboro College, done for the U.S. Forest Service and the New England Native Plant Society. She includes a very good bibliography. Several print sources have misleading information. The Flora of North America includes a line drawing of the plant that has a tuberoid looking very different from what I dug up. However its species description includes that the tuberoid can be nearly cylindrical as ours is. Luer speaks of synchronicity with “all mature buds bloom the same day” which gives the incorrect impression that all the flowers on the same plant bloom the same day. Since we see flowers nearly out, mostly buds, and one fruit, any statement of absolute synchronicity is false. Luer includes a photo of a tuberoid that is horizontal and forked, unlike what we found.



The statements I’ve read about the exact phenology of this species seem very much speculative to me with the exception of the study cited by Luer (1975) where a 10°F drop in temperature resulted in a two day later flowering and no effect with rainfall. This is somewhat corroborated by Steven’s little experiment from Monday.

The other question that has only speculative answers is how does the tuberoid survive underground for many years without putting up a photosynthesizing stem with leaves? A mycorrhizal component is the easiest answer as the tuberoids seem much too small to store food for any long period of time. Ramstetter notes a South Carolina population that was seen in bloom in 1850 and not again until 1975!

Mike Christison found one of the more open flowers with an ant in it. I saw no insects on any flowers.

Photographs by the author.

2007 Mystery Plants

The “mystery plant” combination of *Hexastylis shuttleworthii* and *Galax urceolata* for the last *Chinquapin* issue (15[4]) was correctly identified by Bryan Connolly, Tracy Roof, and Mark Rose. Paula Robbins was partially correct with *Hexastylis* and *Galax urceolata* and Susan Sweetster had the *Galax* correct. For the year, the scores of Tracy Roof and Mark Rose are tied for all correctly identified so I’ll offer them a list of books they may chose from. Congratulations to all!

For the Smoky Mt. English of the last issue, Susan Sweetster had all correct and Eva Pratt and Loree Speedy had 16 and 14 respectively correct. Susan Sweetster again holds the top score for the year with Yolande Godfried and Eva Pratt the next two highest. Thanks for all your interest and all of you deserve a title of “Smoky Mt. English experts” for your venacular knowledge.—J. Dan Pittillo

“Mystery Plants” will return next issue

Eight (or Ten) More...

Continued from front page

munity analyses are fine, and in fact, are a staple of many regional journals, they tend to be poorly cited by other authors. Remember, nearly 40% of our articles are either never cited (NEVER) or only cited once. This is due not to the fact that the articles are of lower quality, but rather, because they are so specific to a particular site that unless someone else works in that very same location, there is little or no reason to cite them. Let’s see more papers that address topics such as succession, invasive species, community and ecosystem ecology, global climate change, ecophysiology, molecular ecology and molecular systematics, all of which can have both regional and global import. Only when our articles are viewed as valuable contributions to the greater scientific literature will other authors be willing (even compelled we would hope!) to publish in *Castanea*. SO, SEND US YOUR ARTICLES!! WE KNOW YOU HAVE THEM!!

Eighth, and most heretical - if we do accept articles from outside the traditional geographical range, we may want to consider changing the name of the society to the Appalachian Botanical Society or something that connotes the broader geographical acceptance area for articles. It’s great being a lame duck President, as I can say outrageous things like this and attribute them to administrative fatigue syndrome! But seriously, I believe that some of the reluctance on the part of authors to submit articles to us is that they think we publish only articles from the southeast or southern Appalachians, when in fact, our mandate specifies all of eastern North America! While I don’t give this item a high priority, neither should we leave any possibility untried. After all, the preservation of SABS and *Castanea* is our primary goal. I would like to rest assured that SABS will continue its 72 years of publishing the best in botanical research.

In closing (if you’re still awake and reading this) I would like to say that it has been my greatest privilege and honor to have served as President of SABS these last two years. I hope I have left the society in better shape than when I came in. Conley McMullen is ready to take over as president when I step down in April, and I am confident that under his leadership, SABS will continue as the premier regional society for publishing high quality botanical research.

Howie Neufeld, President, SABS

Saxifraga...

Outcome

Micranthes careyana (A. Gray) J.K. Small

Saxifraga careyana A. Gray

Micranthes caroliniana (A. Gray) J.K. Small

Saxifraga caroliniana A. Gray

Micranthes micranthidifolia (Haworth) J.K. Small

Saxifraga micranthidifolia (Haworth) Steudel

Micranthes pensylvanica (Linnaeus) Haworth

Saxifraga pensylvanica Linnaeus

Micranthes petiolaris (Rafinesque) Brouillet & Gornall

Hydatia petiolaris (Rafinesque) Small

Saxifraga michauxii Britton

Note: “*petiolaris*” is the oldest epithet that applies to this species, and it therefore has nomenclatural precedence. In *Saxifraga*, however, the epithet is “pre-occupied” (it has an older use referring to a different species), which required the coining of a new epithet “*michauxii*” by Britton when he transferred the species into *Saxifraga*. In *Micranthes*, however, “*petiolaris*” is not pre-occupied, and has priority.

Micranthes texana (Buckley) J.K. Small

Saxifraga texana Buckley

Micranthes virginensis (Michaux) Small

Saxifraga virginensis Michaux

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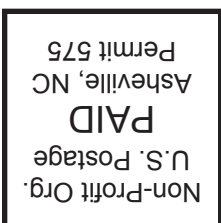
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