



NATIVE PLANT SOCIETY OF NORTHEASTERN OHIO

Founding Chapter Of

THE OHIO NATIVE PLANT SOCIETY

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On the Fringe

THE JOURNAL OF THE OHIO NATIVE PLANT SOCIETY

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DUES ARE DUE FOR RENEWAL!!!

Your membership is due for renewal on January 1st. Last year we appealed for members to renew at the highest possible category, and many of you responded positively, for which we are very grateful. We make the same appeal this year. The Active Membership of \$7.50 barely pays the cost of your newsletter each year. Family Memberships of \$15.00 cover the cost of speakers, programs, and operation. It is the \$25.00 and \$50.00 memberships that allow us to fund the annual grant, attract the occasional expensive outside speaker, and fund our projects. We try to have the best possible year-long programs so that everyone's interests are challenged, and the Annual Dinner has become a tradition no one wants to give up. Please give us a vote of confidence by mailing in your check soon and making it out for the highest possible category.

To those of you who have already renewed, we express our sincere thanks. To those of you who have yet to renew, let this notice be the reminder. It is time-consuming and expensive for us to have to telephone you to jog your memory. We enjoy the opportunity of talking with you, but would much rather do it at a meeting. Our 1988 program, which is enclosed, is diverse and stimulating, so let's all turn out and pack the meetings to the doors!

Let's make 1988 a year of growth and progress - a year when the newsletter gets bigger and better, we add chapters to the State Society, and make some serious contributions to the work of botany in general and native plants in particular.

PROGRAM:

January 2 (Saturday) Dayton Chapter - 10:00 a.m. - University of Cincinnati - Field trip to the University of Cincinnati Herbarium with Dr. Victor Soukup, Assistant Curator. Space limited. Call.

January 8 (Friday) Cincinnati Chapter - 8:00 p.m. - Avon Woods Education Center
An excursion to India, botanizing with Dave Ehrlinger, chief horticulturist of the Cincinnati Zoo and Botanical Gardens.

January 16 (Saturday) Wilderness Center - 1 to 4 p.m. - Pot luck dinner and annual business meeting and sharing of favorite 1987 slides, specimens or anecdotes.

January 18 (Monday) Dayton Chapter - 7:30 p.m. - Cox Arboretum - Martha Boyce talks on the establishment of the herb garden at the Centerville Historical Society.

January 18 (Monday) Columbus Chapter - 7:30 p.m. - Sharon Woods Metro Park - "Monitoring Rare Plants in Ohio" by Jennifer Windus of Division of Natural Areas and Preserves.

January 28 (Thursday) Cleveland Chapter - 7:30 p.m. - Garden Center of Greater Cleveland This will be a combination program with the Camera Guild in which members of both groups will show their best slides of the 1987 trip to the Bruce Peninsula.

February 7 (Sunday) Dayton Chapter - 1:30 p.m. - Germantown Reserve Nature Center
Winter woodland walk.

February 12 (Friday) Cincinnati Chapter - 8:00 p.m. - Avon Woods Outdoor Education Center - Dr. Jerry Snider of the Univ. of Cincinnati will talk on "Bryophyte Flora of Cedar Bog and its Phytogeographic Implications".

February 15 (Monday) Dayton Chapter - 7:30 p.m. - Dayton Cox Arboretum - Mark Dillon will present a lecture on "Butterflies and Plants."

February 15 (Monday) Columbus Chapter - 7:30 p.m. - Sharon Woods Metro Park - "My Favorite Wildflowers" by John Watts, Highbanks Metro Park Naturalist.

February 20 (Saturday) Wilderness Center - 2 to 4 p.m. - "An Inside Look at Grasses" by Dr. Bob Van Keuren of the OARDC in Wooster. The talk will include rudiments of grass identification.

✓ **February 20 (Saturday) Cleveland Chapter - 1 to 4 p.m.** - Cleveland Museum of Natural History - Dr. Barbara Andreas will give a class on her specialty, "Bogs and Fens". **REGISTRATION A MUST. Fee \$5.00 Call 338-6622. Limit 30.**

February 25 (Thursday) Cleveland Chapter - 7:30 p.m. - Orange Library, 31300 Chagrin Blvd. just past Lander Road Circle - 1987 Favorite Slides Night.

✓ **March 10 (Saturday) Cleveland Chapter - 1 to 4 p.m.** - Cleveland Museum of Natural History - Jim Bissell will give a class on one of his favorite subjects. "Grasses, how to identify them and their significance in the ecosystem." **RESERVATIONS A MUST. Fee: \$5.00 Call 338-6622. Limit 30.**

On a visit with Fred Case in October 1987, he gave the Journal several of his articles to reproduce. Here, then, is Part I of his Trilliums of the Eastern United States. Part II will appear in the March issue. The article originally was published in the Bulletin of the American Rock Garden Society, Vol. 39, No. 2. Frederick W. Case was our speaker at the Annual Dinner in November of 1984 and remains interested in our group. He has just retired as a teacher, but remains active in horticulture and research.

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EASTERN AMERICAN TRILLIUMS by Fredrick W. Case Jr.

Trilliums are among the most familiar and beloved of the early spring flowers of the eastern United States. Some enjoy great popularity for their quiet beauty and grace. Some others, especially among the sessile types, cannot be said to be "beautiful." Rather, one might say they possess "curious, gnome-like, fantastic," or even "amusing" characteristics. The folk-names of many species indicate the place they hold in the lore and lives of all of us: wood lily, mayflower, stinking benjamin, wet-dog trillium, bloody noses, and wake robin.

As a genus (or as a distinct family as some botanists believe), trilliums range widely across North America and Asia. By far the greatest number of taxa occur in the mountains, upper piedmont, and foothills of the southeastern United States, from the Carolinas to Alabama, and on the Cumberland Plateau and surrounding areas of Kentucky and Tennessee. Additional species range northward along the Appalachians into Canada, Newfoundland and westward in the north to the edges of the prairies in Minnesota, Nebraska and Iowa. Farther south, a few species occur in Missouri, Arkansas, Mississippi and Louisiana. One or two species reach Texas.

In the western United States, there are at least two pedunculate and four or five sessile trilliums, mainly near the West Coast.

Trillium species occur in Asia as well. There, they range from Russia and the Himalayan Mountains to Japan and Kamchatka.

A relative of **Trillium**, **Paris**, occurs in Europe and Asia. Vegetatively, species resemble, somewhat, the bunchberry, **Cornus canadensis**, while the greenish flowers are fascinating, but certainly not showy. Indian cucumber-root, **Medeola virginica**, is another relative, unshowy yet interesting and widespread in acid woods of the eastern states.

Taxonomically, **Trillium** has been poorly understood in the past. The literature, both botanical and horticultural, contains a morass of misnomers, incorrect distributions, and general misinformation. So confused is the situation that few can speak and be absolutely certain that they refer to a given taxon as its author intended. The confusion results from a multitude of factors. The species often possess rather minute structural differences which tend to be obliterated or obscured in dried herbarium material. Trillium seedlings often flower while they are still much smaller than plants typical of that species. Several species seem to mutate frequently and have produced a variety of color forms. A few species hybridize freely with closely related

species when they occur together. Some of the hybrids, especially when one of the parents is a color mutant, may mimic color patterns of other species.

Fortunately, studies are under way in several American and Japanese universities which could erase much of the confusion. Tools of taxonomic analysis today utilize refined chromosomal and biochemical techniques which can throw much light on relationships.

A fine revision of the sessile trilliums by John Freeman (1975) is the most definitive and helpful paper on sessile trilliums yet to appear. I will generally follow his treatment.

It is not my purpose, in any sense, to write a taxonomic paper here. Rather, I intend to discuss the eastern species of trillium from the point of view of my own field experience and from growing them in the garden.

The genus **Trillium** consists of two subgenera, **Trillium** subgenus **Phyllantherum**, the sessile trilliums, in which the flower is borne directly upon the bracts (leaves); and **Trillium** subgenus **Trillium**, the pedunculate trilliums, in which the flower is borne on a short stalk, the peduncle, above the leaves.

The pedunculate trilliums, currently under study by several researchers, greatly need revision. My interpretations and field experiences do not seem to agree fully with the works presently in print.

The pedunculate trilliums are particularly useful and showy in the garden. All work extremely well in the woodland and wild garden. Let me first list those pedunculate species which I believe to be fairly distinctive wild populations, if now taxonomically discreet species. Then I will discuss each taxon from the point of view of occurrence, culture and ecology, as follows:



Trillium catesbyi

THE PEDUNCULATE TRILLIUMS

Eastern Pedunculate Species

- T. catesbyi
- T. cernuum var. macranthrum
- T. erectum
- T. erectum, forma blandum
- T. flexipes
- T. grandiflorum
- T. nivale
- T. ozarkanum
- T. persistans
- T. pusillum var. pusillum
- T. pusillum var. virginianum
- T. regellii
- T. simile
- T. texanum
- T. undulatum
- T. vaseyi

Trillium Catesbyi Ell.

Catesby's Trillium occurs in the southern Appalachian and Great Smoky Mountain areas, from the upper piedmont of Alabama and Georgia, along the mountains into Tennessee and North Carolina. It is one of the so-called "nodding trilliums," that is, the peduncle recurves below the foliage. Fortunately the leaves are relatively narrow in this species so that the flower displays well.

T. catesbyi usually grows about twelve to fifteen inches high, with the leaves held upward well above the flower. The leaves frequently fold somewhat upon the midrib into a boatshape, with the veins well engraved into the surface. The leaves are dark maroonish green when young. The relatively large flowers, up to two inches across, bear strongly reflexed petals, either narrow or wide, which range in color from purest white to a deep rich rose-purple. The very large stamens are bright yellow and strongly recurved, the ovary six angled. In the wild the plants seldom form clumps, instead they grow singly or in loose, open associations of a few plants.

Catesby's Trillium grows most frequently in rather open, well lighted woodlands of a fairly dryish nature, often where the soil is strongly acid. It is frequent in "laurel slicks," those jungle-like entanglements of **Rhododendron maximum** and **Kalmia latifolia** on steep hillsides in the Appalachian mountains. In deep shade it often fails to bloom.

The finest forms from the gardener's standpoint which I have seen, occur in mountain valleys on the North Carolina-South Carolina border. Here, on flats along small mountain streams, occur deep rose forms with broad petals, truly lovely. (See my color photo of one of these forms in: Crockett, J., Allen, O., and Editors of Time-Life Books, **Wildflower Gardening, The Time Life Encyclopedia of Gardening**, Time-Life Books, Alexandria, Virginia, 1977.)

For me, **T. catesbyi** grows readily. I grow it in neutral to acid sandy soil, which is moist in spring but rather dry in late summer. It receives considerable light at least for several hours each day. Seedlings of the white forms appear in bare spots in my garden but the form which opens deep rose has not appeared here from seed as yet.

Small enough for a background spot in the rock garden and ideal for the acid woodland or rhododendron bed, this early to mid-season species merits a place in all well maintained natural gardens. Appalachian region wildflower nurseries sell the species.

Trillium cernuum L.

The Nodding Trillium is one of the trilliums not fully understood by most. Indeed, there appear to be two entities masquerading under the name **T. cernuum**. In the North, the plant usually known as **T. cernuum var. macranthum** Wieg. is a fairly distinctive plant. It is tall, up to twenty-four inches, although averaging about fifteen to eighteen inches, with rhombic leaves forming a nearly closed umbrella over the stem. The flower nods on a peduncle which deflexes at its base so that the flower hangs

below the leaves. The peduncle, however, is fairly straight over most of its length. The leaves obscure the flower. Petals are thin textured, narrow, strongly recurved. The delicately built, lavender purple stamens divide about equally into filament and anther sac. The ripened ovary, a large, six-angled pyramidal red berry is showy, juicy, and fruity aromatic. Since the leaves elevate during the ripening period, the fruit is better displayed than the flower.

Nodding-trillium prefers cool moist soils. It grows often in low alder thickets along trout streams, or on cedar swamp borders or in low damp spots in deciduous forests of beech and maple. It seldom abounds in any one location, yet it is not particularly rare within its range.

As a garden plant, it is not easy, nor is it showy or distinctive horticulturally. It is difficult in warm soils, some forms are too tall for the rock garden, and in most forms the flowers are decidedly inconspicuous because they are obscured by the large leaves. For those whose passions run to collections of species, it is worth having, but its tallness, miffiness, and lack of showy flowers relegate it to a strictly third class place among garden-worthy trilliums, in my opinion.

T. cernuum var. macranthum occurs from Newfoundland to Manitoba across the north, then southward into Illinois and Indiana. Southward, along the Appalachians, its range is less clear, perhaps because of the confusion of this with other species or forms.

In the Blue Ridge and Great Smoky Mountains, the plant called **T. cernuum** by botanists, gardeners, and nurserymen differs considerably from our northern plant. It has been called **T. rugelii** by earlier botanists and acceptance of this taxon as a valid species seems to be coming back into favor. Along the Black Warrior River in Alabama, and in the Appalachian foothills in Georgia, I have, however, seen plants which seem nearly identical with our northern var. **macranthum**.



Trillium flexipes

Trillium rugelii Rendel

Rugel's Trillium, included by some within the **T. cernuum** concept, differs from northern **T. cernuum** in its much shorter more reflexed peduncle, heavier textured, creamy white broad petals, and large, thicker and very dark maroon purple anthers. The fruit is considerably smaller and darker red when ripe than **T. cernuum** in Michigan.

T. rugelii is a vigorous plant in most forms, with large, rhombic leaves on a fifteen to twenty-four inch plant. Flowers last long compared to those of **T. cernuum var. macranthum**. **T. rugelii** occurs from northern Georgia through Smoky Mountain National Park and in the Blue Ridge Mountains of North Carolina. Johnson (1969) reports it also from Tennessee

and Alabama.

In the several locations where we have observed it, it grew in very rich woods on slightly acid to neutral soils, either along flats of small streams, or on steep rich slopes just above the flood plain soils. It is easy of cultivation, but the short, curved peduncle carries the flowers well hidden below the leaves, which limits the usefulness of this species to the garden.

In several locations where we found the plant growing with *T. vaseyi*, hybrid swarms occurred. Color forms varied greatly with dark maroon, pink, rose, and rose and white flecked types present. Unfortunately, these hybrids, with really lovely flowers, produce them so obscured on their short recurved peduncles that they are rendered almost useless as garden subjects.

Current studies will almost certainly throw new light on the nature of *T. rugelii*. I consider it a valid species.

Plants listed as *T. cernuum* by Appalachian wildflower dealers will likely prove to be a mixed bag and include plants of *T. rugelii*.

Trillium erectum L.

This species, perhaps the most widely distributed of our eastern pedunculate trilliums, is my unabashed favorite. Not that it is the showiest species. Rather, in Michigan, no plant ever gave me a greater chase when I was a kid trying to locate it. None has ever given me greater pleasure with its early flowering, rich coloring, its fetid yet nostalgically pleasant faint stench, and its penchant for mutating, producing showy and desirable color forms.

The wake robin occurs from the uplands of Georgia to Maine and Quebec. In the acid soil regions along the entire Appalachian chain and in the woodlands of glaciated New England, and eastern Ontario, it often abounds. Westward, in Michigan and Ohio, where acidic rocks and soils are less abundant, the plant, too, is relatively local or rare. Although reported from Minnesota, Wisconsin, and Illinois, the only authenticated stations there suggest that the plants have escaped from gardens or arboreta.

T. erectum is often confused with the closely related *T. flexipes* forma *walpolei*, a red hybrid segregate of this species.

Typically, *T. erectum* is a medium tall plant, from twelve to twenty inches, but not so tall in relation to leaf size as *T. cernuum*. The leaves are very large, broadly rhombic, and rich apple green. Flowers may be borne stiffly erect on their peduncles, or more often leaning to one side, sometimes almost declined. Obviously, large, colorful, erect forms are the most desirable horticulturally. Local races vary. Petals, in the typical forms a dark red-maroon, fade with age to a more purple color. They are longer than broad and sharply pointed and slightly cupped forward. Forms with ovate, broad petals occur as do very flat flowers. Although some of these types have been given subspecies names recently, many grow in mixed populations with *T. flexipes*.

I am convinced that these forms represent hybrids and hybrid swarms as these forms are duplicated in lower Michigan where the two species intermingle. We have also produced some of the same kinds of color and structure forms from controlled crosses in our garden.

More than one gene, apparently, control the color of what is to the eye a solid dark maroon-red petal in *T. erectum*. Consequently, mutations occur involving deletions of certain but not all of the color genes. The result may be a petal with a dark base and lighter distal portions, or the reverse, a white base but darker extremities. Multiple deletion mutations produce white petals or pale yellow or green ones.

When these color forms hybridize and various combinations occur, beautiful, bizarre, and surprising color patterns result. Nearly all are desirable horticulturally. These forms should not be confused with the variegated and monstrous forms produced

in *T. grandiflorum* by mycoplasma pathogens; they are quite unlike those.

Besides the mutant color forms which can occur in any population of *T. erectum* anywhere, certain color races seem to dominate in certain districts. In parts of the higher elevations of the southern Blue Ridge Mountains, a form with narrow white to greenish white petals abounds. The dark maroon-black ovary contrasts showily. This form is otherwise typical *erectum* in petal shape, plant aspect, and odor.

T. erectum flowers may last for two weeks in cool weather. When fresh, they emit the fetid odor of wet dog. Mercifully, the odor cannot be detected more than a few inches from the blossom. The fruit of typical *erectum* is distinctive. The ripe berry is quite spherical, with six shallow ridges, crowned with the three short stigma tips and the entire structure is a shiny dark maroon or blackish maroon color. Compared to the ripe fruits of *T. cernuum* or *T. flexipes*, the berry is quite small.



Trillium texanum

Red trillium grows in both evergreen and deciduous woods on light humus rich soils, or in the rich, drier peaty soil of old cedar-hemlock swamps (at least in Michigan). Soil reactions are mildly acid. The soil is generally cool in summer.

As a garden plant it is easy, except in poorly drained clays. It is large for the rock garden, but ideal for woodland settings or as a background plant near a shrub. In my garden it seeds and hybridizes abundantly.

Trillium erectum forma blandum

On the west side of the Great Smoky Mountain National Park, in the general vicinity of Gatlinburg, Tennessee, grows a plant which I formerly had interpreted to be *T. simile*, but which I have been informed by a student of the group, should be called

T. erectum var. **blandum**. This taxon, present as the lower elevation representative there of the **erectum** complex, is truly a fine horticultural subject. Its general aspect suggests a vigorous **T. erectum**. The plant produces very large, oval petaled, heavy textured creamy white flowers, each with a dark maroon-black ovary. The faintly musty scented flowers stand strongly erect and appear nearly as showy as those of **T. grandiflorum**. Petals remain in good condition for a long two weeks.

The plant is not identical with the ordinary white-flowered forms of **T. erectum** and is vastly superior in size, color, and texture horticulturally. It has proven to be a good garden plant for me in cold central Michigan, although our climate is far more severe than that of Tennessee. Bloom size increases as plants become established and strong clumps develop. I would regard this plant as one of the best of the larger pedunculate trilliums for garden use.

Forma **blandum** is one of those poorly understood entities that has been much confused with others in the past, and on which there is much current study. Regardless of the outcome of taxonomic research, the form is superb. It forms very large colonies where it occurs, often cascading down a wet roadside outcropping and nearby talus in hundreds of plants.

I do not know the extent of its range, but it appears to be the only form of **T. erectum** within some distance of Gatlinburg at the lower elevations. The plant is illustrated as **T. simile** in the Time-Life book previously cited, (ibid.)

Trillium vaseyi Harbison

Some botanists consider **T. vaseyi** to be but a variety of **T. erectum**. I disagree with them on the basis of both taxonomic characters and field ecology, although I acknowledge that the two species are very closely related. Regardless of taxonomic differences of opinion, the plant is certainly distinct horticulturally.

T. vaseyi is a very large, late blooming plant. It stands from fourteen to over twenty-four inches high and has flowers that can be easily the largest of any eastern trillium. The deep maroon-red, faintly pleasantly scented blossoms appear after most of the other species have finished flowering. They reflex on the peduncle so as to be partially hidden beneath the leaves. The blossom, often over four inches in diameter, opens flat with recurved petal tips. Compared to many of the forms of **T. erectum**, the flowers last longer and open later in the season. The umbrella of leaves sometimes measures over fifteen inches across.

The plant is impressive to see and makes an excellent accent plant in the garden.

In the wild its preferred habitat is in the "coves" — small side valley amphitheaters eroded into soft rocks by the smaller tributary streams—mainly of the south and south-eastern edges of the Smoky Mountain and Blue Ridge Mountains. Rocky ledges and platforms near trickles in humus-rich mucky damp soils suit it best.

In our severe climate, this is not an easy plant. Although it does not perish from winter conditions, it is difficult for me to provide the wind protection and moisture

it prefers as it develops in spring. Yet it always blooms even if the leaves and flower show slight damage.

Under favorable conditions it is a superb garden subject although it seems rarely to be cultivated outside its native areas. It is illustrated also in color in the Time-Life book, **Wildflower Gardening**, (ibid.) According to the literature, white forms and hose-in-hose double forms occur. I have not seen them.

Trillium simile

From currently published works, I have been unable to ascertain to what plant this name correctly applies. Plants I have found or been shown by other field workers have proven to be **T. flexipes**, **T. rugelii** or **T. erectum f. blandum**. Robert G. Johnson, in his Ph.D. dissertation, considered it to be the albino form of **T. vaseyi**. If the name is valid, its use awaits clearer scientific delineation of the taxon to which it should apply.

Trillium flexipes Raf.

Known as **T. declinatum**, and **T. gleasonii**, this much misunderstood plant is really quite distinctive and, in its best forms, a most useful horticultural subject. The plant is a large one, up to thirty inches tall when growing in rich soil. Flowers, borne on three to five inch peduncles, may be stiffly erect or declined at various angles below the large, rhombic leaves. Petal texture is usually quite leathery, making the blooms of the best forms long lasting. The three inch flower may be quite flat with rather broad, ovate petals or the petals may be narrow and reflex badly, with curled margins on a recurved peduncle. The finest forms for garden use which I have seen come from the limestone country near Louisville, Kentucky, where the species is abundant.



Trillium persistans

Flowers of good forms last for up to three weeks or more in cool weather, making it the longest lasting pedunculate trillium in the garden. The pyramidal fruits, as large as crabapples, rich pinkrose in color and strongly six angled, emit a fruity fragrance.

T. flexipes, as currently understood, ranges in the American midlands from northern Alabama to Wisconsin and Minnesota, thence eastward into New York and Maryland. In the driftless areas of Wisconsin and Minnesota I have seen plants which appeared to be intergrades with **T. cernuum** var. **macranthum**.

Where the range of this species overlaps that of the red flowered **T. erectum**, and where acid and limestone soils occur in proximity, extensive hybridization occurs between these species. Some of the hybrid patterns occur so frequently that they were first considered to be distinct forms

and were named **T. flexipes f. walpolei** and **T. flexipes f. billingtonii** Farwell.

Where suitable conditions occur, in Michigan, Ohio and Kentucky, large hybrid swarms and their backcrosses produces a delightful array of plants. Flowers in a variety of maroons, rose, speckled, spotted, and shaded colors abound. Because, as mentioned, there are multiple genes influencing the various parts of the petals, hybrids appear which are white basally with distally red petals, or the reverse, mimicking the painted trillium. In my garden, wholly new color variations have appeared. Through controlled pollination, my wife and I have produced garden hybrids identical in color patterns with some of the wild forms. When we crossed the large, heavy textured erect flowered types of **T. flexipes** from Kentucky with **T. erectum**, superior, erect flowered forms with excellent carriage and color resulted. Even picotee forms — cream, margined with purple flecs — have appeared. These hybrids merit a place in the garden. We are trying to find ways to propagate these desirable types more rapidly.

Trillium grandiflorum (Michx.) Salisb.

This magnificent species is the best known and best loved of the trilliums and is indeed a favorite spring flower of all outdoorsmen in the Northeast. In cultivation, it can be as large as any species and is always truly showy. Great masses of this plant fill the woodlands of the Great Lakes Region, Ontario, and parts of New England in the spring. It ranges southward in upland regions of the Cumberland Plateau and Appalachians to North Carolina and Tennessee, but becomes local southward. The species occurs in all but the waterlogged soils of bogs and floodplains, but thrives best on sandy or loamy hillsides.

Standing eight to over twenty inches tall, with leaves up to eight inches long and less rhombic than in the **erectum** complex, the plant bears a relatively large flower on a three inch peduncle. The flowers are more deeply cupped than in many pedunculate species, almost funnelform at their bases, but widely spreading at their distal ends. Petals, each up to three inches long and half as broad, are thin-textured but very white with deep and conspicuous veins. In spite of the thin texture, the petals last long and gradually turn from white to pink to deep rose with age. The fruit is six angled, green and inconspicuous.

T. grandiflorum is larger and in every way showier than its western counterpart **T. ovatum**. It has also the advantage of being far more winterhardy.

In European gardens, the plant is grown with considerable light and fertilizer; with such a treatment very large plants develop. There is no doubt that this is the one best species for massing and landscape effect in the woodland garden. It is a long lived, clump forming species.

Like other species, it has various forms. Various hose-in-hose double types occur, and rock gardeners know of the magnificent form with about thirty petals. Double forms have appeared many times in the wild and both highly symmetrical, lovely forms and rather ragged petaled doubles exist.

There is a form in which the backs of the petals are pink, even in the bud, which

has been reported and is coveted. I have been fortunate not only in obtaining such forms from horticulture, but in finding my own very good pinkbacked form in southern Michigan. Seedlings of these are appearing in my woodland garden with better color than in the wild forms. I have not, however, found a form in which the face of the petal opens in a good pink. Such a form would be a real find!

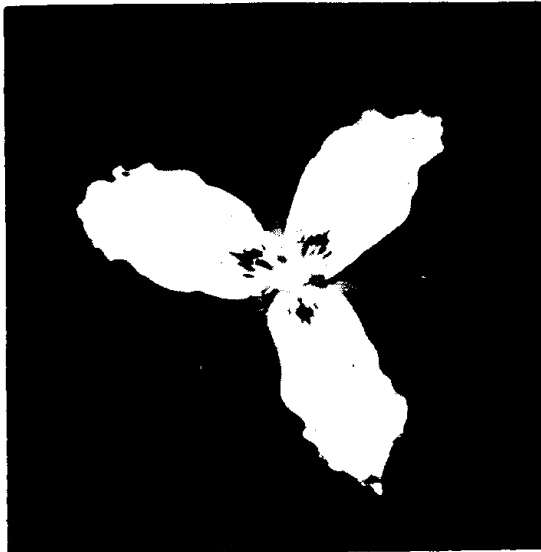
In recent years a vogue has developed in rock gardening and other horticultural circles for local forms of **T. grandiflorum** which occur with green-striped petals, blotches, or other aberrations which include alteration of the plant body form itself: clusters of leaves replacing the flower, or a knot of petals, white and green streaked, without leaves, or very commonly, long, narrow petiolate leaves — sometimes several sets of such — and highly distorted flowers. I have seen one such in which there were long petioled leaves at ground level, a long stalk bearing a much variegated and distorted flower, with miniature three petaled but distorted blooms emerging from the stamen tips. Earlier botanists considered these strange plants as "mutations," or teratological forms. Some gardeners have spent a goodly sum trying to obtain as many of these as possible. Although some are beautiful, they result from a disease. Dr. Gary Hooper, Michigan State University, and myself (Hooper, Case, et. al. 1971) have demonstrated that the condition originates not from mutation, but from the presence in the tissues of mycoplasma organisms. These organisms, larger than viruses, seem capable of producing on developing tissues an influence similar to that of genes. The infection spreads slowly in wild populations until entire colonies show the disease symptoms. Infected plants turn maroon-red months early and die down. Weakened plants gradually disappear in wild colonies.

This mycoplasma disease can spread to other species: we have seen it in **T. erectum** and **T. undulatum**. However unfortunate it may be that gardeners have invested considerable sums for these showy but diseased plants, no sensible gardener ought to harbor them. Certainly, diseased clones ought not to be spread around the world under the guise of horticultural forms.

Trillium persistans Duncan

In 1971, Duncan described a new trillium from the mountains of northeast Georgia. Known thus far only from a four mile square area in which the plant is rare, local, and difficult to approach even in sites where it is present (because of TVA damming of rivers), this plant has been given endangered status under federal laws.

A distinctive, small trillium, the plant has lanceolate, somewhat drooping leaves with three conspicuous large, light colored veins per leaflet. The flower resembles somewhat a depauperate first blooming seedling of **T. grandiflorum** or **T. catesbyi** and is distinguished by the failure of the petals to spread very widely at first. The blossom diameter



Trillium undulatum

is about one to one and a half inches, the petals individually quite narrow, somewhat undulate. The small, flattened ovary is strongly six-ribbed. As the flower ages, the distal portion gradually deepens to a dark rose purple. The proximal area near its attachment retains its white coloration in the form of an inverted V. This color pattern of the aging flower is diagnostic for this species.

Plants as rare as this species should not be collected any longer by amateur botanists or gardeners. Since there will always be avid collectors and plantsmen who "must have the plant at any cost," it is my personal view that seeds of this and other extremely rare species should be raised by botanical gardens or university gardens, and that cultivated material ought to be introduced into the horticultural trade at the earliest possible moment. This, I think, would provide a source of plants for the specialist-collector-grower, but would not put pressure on wild populations through illicit collecting.

The specific epithet "**persistans**" refers to the long lasting nature of the plant, which remains healthy and green until late in the autumn. Persistent Trillium is also one of the earliest of the trilliums to appear, blooming in February and March (into early April) in its wild haunts. Through a quirk of fate, I collected three plants of this species with some **T. catesbyi** near the type locality some years before the plant was even described. They are fully hardy at Saginaw, Michigan, but its seeds have not produced seedlings.

As a garden subject, I would rate the species as second class, although in size it is a good plant for the rock garden. **T. persistans** was honored with a painting on the U.S. Endangered Species Postal Stamp series.

Trillium nivale Riddell

If I could choose but one pedunculate trillium for the rock garden, I would not hesitate to choose the snow trillium. Firstly, one of its preferred habitats is on limestone outcrops and the talus slopes below. It is thus a true rock plant. Secondly, it is tiny, like many of the best rock plants, but with large and conspicuous flowers for its size. Thirdly, it is the earliest wildflower to bloom in our region, often commencing bloom ahead of the skunk cabbage which is traditionally considered our earliest wildflower.

T. nivale grows mainly on limestone soils and outcrops, or secondarily, on rich, limy rich river bank soils in a narrow band from western Pennsylvania through Ohio and Indiana to Iowa and southern Minnesota. It is rare and local over much of its range, but is said to be abundant in parts of its western distribution, even persisting in fence rows after the woods have been lumbered.

At first only two or three inches tall, the plant enlarges in bloom, (as does its relative the painted trillium) and may in vigorous plants attain a height of six inches. Blooms, surprisingly large and showy for the size of the plant, are usually a clean white with conspicuous yellow stamens. Blossom spread is up to two inches. The ovary, six-angled in most trilliums of this group, is instead obtusely triangular in cross section. The two to three inch long, ovate leaves are a glaucous bluish green.

and distinctly petiolate. The peduncle, erect in flower, reflexes strongly as the flower ages, and is strongly reflexed before the petals deteriorate.

Because snow trillium blooms from early March into April, it frequently is subjected to very cold night temperatures. The plant often freezes solid, in bloom, night after night without apparent harm.

The snow trillium requires a site free of competition. It inhabits eroding limestone ledges, ravine summits where continued erosion keeps sunny areas free of grass, or loamy flood plain soils where only occasional flooding prevents development of dense woodland vegetation. For it to be permanent in the garden, one must simulate the competition factors of the plant's wild habitat. Give it a slightly open, flat area, mulched with lime chips, a crevice in a limestone boulder, or a spot free of plants at its base. Under these conditions, the snow trillium can be one of the best of the American rock plants, long lived, and freely seeding about.

We had the pleasure, this year, after a forty year search, to be a part of the rediscovery of **T. nivale** in abundance in Michigan. The plant had been considered extinct here.

Trillium pusillum Michaux var.

In Coastal Plain, Piedmont, and southern Cumberland Plateau woods from Maryland and Virginia to Alabama and Kentucky grow several taxa of charming dwarf trilliums which are all very rare, local, and largely unknown to gardeners. Many of these populations may now or soon have legal protection as threatened or endangered species owing to their discontinuous and very local occurrences. It would be my hope, however, that these taxa could be legally brought into cultivation and made available commercially, for they have traits that make them ideal subjects for the rock garden.

Trillium pusillum grows more stiffly erect than **T. nivale**, averaging just slightly larger, from about four to eight inches tall. The somewhat drooping, narrowly oval, blunt-tipped leaves are green to bluish or maroon green. The flower is quite large for the plant, upfacing, white, or white on the face with a rose back to the petal. Blossoms reach to over two inches across, spread widely, and have very undulate petals.

Races of **T. pusillum** bloom just after **T. nivale**, early in the season, and well ahead of most other trillium species. Thus, they fill a need in the garden schedule. Flowers persist a long time. Since, like **T. grandiflorum**, they gradually turn rose, they also provide a touch of color before they fade.

T. pusillum grows in generally, acid-soil swamps and stream bottomlands, in soggy soils at the upper limits of the floodwater level, and occasionally, in upland swamps. Where colonies occur, plants are generally abundant.

In my garden, it grows and blooms well without the moisture of its native habitats. So far, at least, it has been completely winter hardy. For "purists" it is not a rock plant in any sense. But in size and charm, it is perfectly suited for a featured spot in a rockery. It grows well in a neutral to slightly acid pocket of not too fertile soil.

The discontinuous distribution of **T. pusillum** with lack of gene-flow between populations for a long time has led to structural differences among colonies. Most of these are minor, but plants from the north of its range in northern North Carolina, Virginia and Maryland have been given varietal status as **T. pusillum** var. **virginianum** Fernald.

In this variety, the flower peduncle is either vestigial or absent, the flowers sessile or subsessile. These blooms face stiffly upward giving the plant a different aspect from any other pedunculate trillium. This carriage, coupled with the usually rose backing to the petals and the smaller size of the plant, make it completely charming and horticulturally desirable. It is, however, a very rare and local plant. Like other rare species, arboreta or botanical gardens ought to propagate and distribute the plant to dealers so that it may be legally and safely available to gardeners.

Trillium ozarkanum Palmer and Steyermark

Botanists formerly considered the Ozark trillium to be a variety of **T. pusillum** but now generally give it specific rank. It differs from **T. pusillum** in being taller, up to ten inches or so, with more ovate pointed leaves, which have generally five prominent veins instead of three as in **T. pusillum**. Early in the bloom period, the leaves also tend to have a deep maroon undertone largely absent from typical **T. pusillum**. Flowers, on strong peduncles, average larger than those of **pusillum**, with distinctly wavy-undulate margins and very conspicuous recurved yellow stamens. Bloom time in my garden is just reaching its peak as **T. pusillum** varieties fade.

T. ozarkanum habitat differs from that of **T. pusillum**. It grows on rocky hillsides, in open fields, open oak or mixed deciduous forest-pine woods, or in shaley, rocky, dry steam beds. It occurs in the Ozark Mountains of Arkansas and Missouri, and in Kentucky, often in areas where grow mountain laurel, arbutus, sourwood trees and other acid soil plants. Plant collectors and wildflower nurseries of the Ozark region occasionally offer it. Its size and manner make it highly desirable for the rock garden.

Ozark trillium grows well for me at Saginaw, Michigan and is one of my favorite plants. It is completely winter hardy. It has not seeded about here as have many other species.

Trillium texanum

Texas Trillium was also formerly united with **T. pusillum** by most botanists and is clearly a close relative. It is the only eastern trillium which I have not seen in the wild, although I have seen the plant in John Lambert's Mountain Fork River Arboretum at Mena, Arkansas. In general aspect it resembles **T. pusillum** but is narrower in all respects. The almost linear petals are undulate, clear white, and spreading. The narrowly linear leaves, blunt-tipped and green, spread rather than droop as in **pusillum**, and tend to fold or reflex toward each other across the upper surface, giving the leaves a slight "boat" shape.

Native to the coastal plain, wetter regions of east Texas, this trillium grows in acid woods and boggy ground, often in company with osmunda ferns. It, like other relatives of **T. pusillum**, represents local, disjunct variants of a once uniform and

widespread species. If it proves to be winter hardy here, it will be a worthy garden subject as a variation on a theme.

Trillium undulatum Willd.

The painted trillium can be the beauty of the genus, or it can be disappointing. This apparent paradox stems from the manner of development. **T. undulatum** plants emerge from the ground relatively late in the season and develop rapidly. Buds open when the plant scarcely has grown four inches tall. Growth and expansion continue for several more days until the plant reaches full size, a height of from fifteen to twenty-four inches. At this time, the full blown flower may be three inches across, with thin-textured, white petals beautifully blotched and penciled with deep red at the base. If plant development has proceeded as above, the plant is a great beauty. But, if the flowers are pollinated before expansion is complete, a hormone reaction occurs, the petals turn watery and translucent, the colors fade rapidly, and the petals wither and fall. A prematurely pollinated plant disappoints, to say the least.

Wide ranging, the painted trillium occurs from Quebec and central Ontario southward in acid soil regions to the mountain tops of the Great Smoky Mountains and the Blue Ridge of the Carolinas and Georgia.

It requires cool soils, hence its restriction to higher elevations southward. In New England, the plant is widespread at most elevations in suitable acid soils. Westward, the species reaches into the "Thumb" of lower Michigan, where it is a very rare, protected plant. Reports from north and west of these Michigan stations lack specimen documentation and at least some of them result from misidentifications of the **T. erectum** x **T. flexipes** hybrid segregates having basally red-blotched petals. See **T. flexipes** f. **billingtonii** Farwell, discussion in Case and Burrows, 1960.

Growing this demanding species can be difficult if one lives and gardens outside its natural areas of occurrence. Not only must it have suitable cool temperatures and pH, but it nearly always grows in deep brown peaty forest duff.

Although painted trillium is not native in my immediate area, I have grown it for years in the deep shade under beeches and oaks by excavating a large area to a depth of about ten inches. On the bottom of the excavation I place about three inches of washed silica sand (which can be purchased at builder's supply houses as sandblaster's sand). On this sand I place the trillium rhizomes, for in the wild, in Michigan and in North Carolina, they invariably grow with the rhizome in contact with mineral soil but deeply covered with acid duff. Over the rhizomes I place a mixture of sand, Canadian peat and oak and pine duff, bringing the mix up to the level of the surrounding soil. This shaded bed should then be mulched with oak leaves or pine needles.

Wildflower dealers offer this species. It is worth a try, but I am uncertain as to how it will perform in the hotter American midlands.

When current research is completed, other pedunculate trilliums may be recognized. Nomenclature may change, but the wild populations I have referred to are distinct from the horticulturalist's point of view, and these plants deserve a place

in the world's gardens if it can be done without endangering wild populations.

Frederick Case is Chairman of the Biology Department of a High School in Saginaw, Michigan and is the author of Orchids of the Western Great Lakes Region.

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THE SECOND HALF OF THIS ARTICLE WILL APPEAR IN OUR MARCH ISSUE.

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See last article in this issue: Wild Collection: Behind VWPS Policy.

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LIMITED EDITION PRINT AVAILABLE

At the Annual Dinner, Artist Karen Keary presented a watercolor painting of Spring wildflowers to the Society. Member Dick Evans has made a limited edition print in full color which will be signed and numbered by the artist. The prints are being sold by the Society for \$35.00. **All** proceeds will go to the Endowment Fund, the interest from which will fund the Annual Grant of \$500.00.

Originally intended to sell for \$50.00, a reduction in price was made because the print measures 14x20" unmatted, which is somewhat smaller than the 28x20" original. In addition, for those of you who saw it at the dinner, the print is somewhat lighter in color, giving a misty quality of a Spring morning. Artists who have seen the finished print rate it as extremely lovely. The print features the new state wildflower, the Trillium, and includes wild ginger, dutchman's breeches, several kinds of violets, foam flower, dogwood, as well as others.

This is an outstanding contribution by Karen and Dick to the financial well-being of the Society. I am pleased to say that Karen is now a member of our group. The print can be seen by calling 338-6622. It will be hung at Holden's Corning Building after the first of the year. There are only 150 prints available to us, so get your order in early.

Dr. Wherry was one of those rare individuals—a real naturalist. Many associate his name only with botany because the major part of his later professional life was devoted to the study of plants, but he was also a chemist, crystallographer, mineralogist, and geologist. In fact, 40 per cent of some 400 publications by him dealt with the latter subjects. Dr. Wherry was associated for many years with the University of Pennsylvania and the Philadelphia Academy of Sciences. His life interests followed the patterns that developed during his youth. It was my good fortune to have known Dr. Wherry since my high school days, and I also studied ecology and pteridology with him as an undergraduate at the University of Pennsylvania. An excellent letter writer, he kept in touch with his colleagues and former students until approximately the last five years of his life, when he was no longer able to keep up. He died on 19 May 1982 in a nursing home. His wife died some years ago, and he is survived only by his sister, Miss Evelyn Wherry of Germantown, Pennsylvania.

Edgar Wherry's family history goes back to 1718 when his ancestors came to Pennsylvania. During the Civil War, his grandfather provided vehicles for the front lines. Dr. Wherry's parents were Albert C. Wherry and Elizabeth Doll. His father owned a printing establishment in Philadelphia. Young Edgar apparently got his first interest in natural history when he was enrolled in the Friends Central School. This early enthusiasm for plants and minerals never abated, and constituted the background for his entire professional career. It was at the Wagner Free Institute of Science that he became intrigued by chemistry. He was able to attend the lectures at the Institute not far from his home where he derived his initial scientific orientation. At the completion of his public schooling, when he was 17, Edgar Wherry received a scholarship from the University of Pennsylvania, where he pursued Chemistry and received his undergraduate degree in 1906.

By his junior year he was already beginning to pay attention to the relationships of plants to soil types. He became concerned, for example, with the moss-pink (*Phlox subulata*) and its affinities with serpentine rock. After graduation, Wherry continued in the same university under a Harrison Fellowship. After awards of class honors, he received his Ph.D. in mineralogy in 1909. His doctoral thesis was on Triassic igneous rocks from the vicinity of Reading. During his graduate student years he also took on consultantships, and served as an analyst for the C.G. Davis Company of Philadelphia. He also received a lectureship in chemistry at the Wagner Free Institute, which must have given him special pleasure and satisfaction in returning to the home of his early inspiration.

In 1910, Dr. Wherry was given an appointment in the Department of Geology at Lehigh University, where he taught mineralogy. In the summer of 1910, he went to the University of Heidelberg, Germany, to study crystallography with Victor Goldschmidt. Wherry's own pioneering research in the investigation of crystal structure during this period is now considered classical work which, even in today's much enlarged and more sophisticated field of crystallography, still has many important economic

implications. In 1913 he was made an assistant curator at the United States National Museum, where he continued his work on crystals until 1917, at which time he transferred to the Department of Agriculture to become Crystallographer and later Principal Chemist. He remained for a number of years at the Department of Agriculture, where he became well known to the local botanists and agriculturists. He was married in 1914 to E. Gertrude Smith.

During this period, which lasted through the 1920's, Dr. Wherry began his famous collection of hand-colored 3-1/4 x 4 inch lantern slides of plants. Photographed in black-and-white, the slides were painstakingly painted with the proper colors of foliage and flowers, and they formed the basis of his hundreds of lectures over the rest of his life to scientific and amateur groups.

Frederick V. Coville, the Chief Botanist of the Department of Agriculture, became a major influence upon Dr. Wherry's career, and was probably the most important factor in his turning more and more to botany. He also gained from Coville a special interest in Ericaceae. By 1930, he had attracted enough attention as a botanist to be invited to be a member of the Botany Department at the University of Pennsylvania, where he was appointed an Associate Professor, and thus was able to return to his home city and alma mater. He remained at Penn for the rest of his career, a total of 25 years, retiring at 70 in 1955 as Professor Emeritus. In his later years, Wherry taught elementary botany, poisonous plants to pre-vets, and ecology.

No one could have had any idea that Wherry's life would go on after retirement for over a quarter of a century. Only in the last years of his life did his interest in the world around him waver. His enthusiasm and curiosity about botany and geology persisted and he continued for years to make field trips, write articles and give countless talks. Wherry continued his teaching at the Morris Arboretum and the Barnes Foundation long after his "retirement."

Dr. Wherry contributed heavily to professional societies. As abstracter and assistant editor for Section 8 of **Chemical Abstracts** from 1909 until about 1938, he produced over 3000 abstracts together with his colleague, J.F. Schairer. He edited **The American Mineralogist** for the Mineralogical Society of America, and **Bartonia** for the Philadelphia Botanical Club. He served as President of the Mineralogical Society, the Washington Section of the American Chemical Society, and the Pennsylvania Academy of Science. His role in the American Fern Society was a major one for many years, and he contributed to it not only as an officer (President, 1934-1938), but bibliographer (Index to the Fern Journal), and donor (he gave the royalties from his fern books to the Society).

Dr. Wherry's public service record was enviable. He was willing to step down from his role as a scientist to communicate his knowledge to the lay public. He advocated the preservation of natural areas and species long before the present intense concern for these matters. He lectured to many garden clubs; he served as consulting ecologist for a number of natural areas, and he himself was the guiding force for establishing the State Wildflower Preserve near New Hope, Pa., known as Bowman's Hill. Two of his favorite organizations were the Wildflower Preservation Society

and the American Rock Garden Society.

His research activities were mainly prior to the days of the National Science Foundation, but he nevertheless received a number of grants from various sources, including the University of Pennsylvania Board of Education and Research, the Texas Research Foundation, and the American Philosophical Society. I suspect, however, that the vast majority of expenses for his studies, especially his field explorations, were paid for by his own personal funds, a reflection of his deep love for the world of nature and the joy of discovery. He received the Morris Arboretum Award for his many contributions, and the American Rock Garden Society created a memorial garden in his honor at Merion, Pa. In 1964, the Cranbrook Institute of Science presented him the Mary Soper Pope Award for his distinguished achievements in botany.

As a person, Dr. Wherry was of unusual appearance and bearing. He was tall and thin and had a rather delicate appearance, as though he were not in good health. By a rather withdrawn expression on his face, he always seemed to be concentrating on something. He was near-sighted and wore thick glasses. Nevertheless he obviously loved to talk science, and he was an ideal, stimulating conversationalist. It was unexpected to find that he was usually up-to-date on world news, political matters, and the arts. I remember how surprised (and pleased) I was to hear him sing selections from Gilbert and Sullivan during one of our field trips. His peculiar walk was characteristic, and one of the students at Penn characterized him by his "loose, shambling stride, mumbled comments, and quirky wit." When, in his later years, he would tumble during a field trip, he simply brushed himself off casually and went on unperturbed. Dr. Wherry had a wonderful sense of humor, and enjoyed hearing a funny story as well as telling one. We always called him Dr. Wherry, although a few of his students referred to him (out of earshot) as "Uncle Edgar."

In addition to nearly 250 botanical articles and notes, many of them reports on his field explorations, Dr. Wherry wrote several books, including **Wildflowers of Mt. Desert Island** (1928), **Wildflower Guide** (1948). **The Genus Phlox** (1955), **Fern Guide, Northeastern and Midland United States and Adjacent Canada** (1961) and **Southern Fern Guide** (1964). His publications were highly accurate, based almost entirely upon his own observations. He was very impatient with authors who kept copying errors from one generation to another.

Wherry made important scientific contributions to chemistry, crystallography, geology, plant ecology, systematics, and floristics. For plant ecology his pioneering studies of hydrogen ion concentration (pH) and its bearing upon development and geographical distributions of plants will have permanent significance. Perhaps not as important in the long run were his field studies which resulted in numerous major range extensions to the known distributions of plant species in North America. In evaluating Dr. Wherry's many contributions, his role in influencing generations of botanists and ecologists should not be underestimated. Although the number of his students was few, through them, and through his lectures to societies and his writings, he reached many professional plant scientists. He showed us how to be successful field botanists, and he demonstrated the value of investigations in the natural habitats

for the understanding of the living world.

This is a reprint from the Bulletin of the Torrey Botanical Club, October-December, 1982.

* * * * *

WILD COLLECTION: BEHIND VWPS POLICY by Mary Pockman

The majority of native plants sold for garden and landscape use are believed to be dug from the wild. Opinions about this practice vary. Some people oppose all wild collection as a threat to native plants in their natural settings, while others take it for granted or actively defend it. In between are various "ifs" and "buts."

As Bulletin readers know, VWPS policy rejects wild collection for horticultural use, except for relocation of plants that otherwise face certain destruction. Apart from carefully-planned rescue projects, the Society and its chapters do not remove plants from the wild, nor do we buy or sell wild-collected plants or accept indirect benefits from trade in them. Instead, we emphasize propagation as the best source of plants for cultivation. We urge that individuals adopt the same position.

The issues behind this policy have been widely discussed within the VWPS and elsewhere, and it's important that members understand what they are. From the point of view of the VWPS, the heart of the matter is the urgent need to make sure that the horticultural use of native species does not jeopardize their populations in the wild. The overlook for those populations is already shadowed by the far more serious threat of habitat loss. VWPS policy seeks to avoid the additional risks posed by wild collection.

We lack enough systematic information to be certain exactly what damage wild collection actually does. There is no doubt, however, that it has the potential to do substantial harm, which maybe irreversible. It can disturb a habitat, reduce the size of a population and thus its variability and resilience, perhaps remove altogether some unique genetic character. In the view of the VWPS Board, the possibility of these destructive effects makes wild collection unacceptably risky.

The hazard is clearest in the case of rare or endangered species; few would openly defend collection of these plants. Common, locally abundant species are another matter. Some see no harm in digging "a few" plants of these species for landscape use. Methodical "thinning" or "harvesting," they maintain, can produce a sustained yield while leaving the base population unchanged. Against this argument one must weigh the fact that we know too little of the population dynamics of many native species to say with certainty how many plants are "a few" or what yield is sustainable, even under constant conditions.

It's also argued that most of the wild-collected plants offered for sale have been rescued—they would have been destroyed if they hadn't been removed. While

that may be true, the retail buyer rarely has any way to be sure of it, and the ease of labeling plants "rescued" warrants caution. Without fuller information, the safe response to both these arguments is to avoid the risk.

Concern for the preservation of native plants in the wild is the foundation of VWPS policy, but other considerations support that same position. Many of the collected plants sold through nurseries are thought to have been obtained illegally. Wild collection (including rescue) without the landowner's permission may constitute theft or trespass. It may also violate federal or state plant protection laws or those governing removal of plants from public land.

Considerations of business ethics and consumer's self-interest also raise questions about wild collection. With the notable exception of nurseries that sell only propagated plants, most plant sellers tell customers little or nothing about the source of the plants they offer. Left in the dark about a plant's history, a buyer is ill-equipped to judge its value. A mature plant dug from the wild (and perhaps stressed in the transition from its native habitat) may need extra TLC; even with good care, the odds that it will thrive may be relatively poor. Moreover, wild-collected plants are in general not only less vigorous but less shapely and attractive than nursery propagated plants.

Fortunately, propagation can now readily replace wild collection as a source of plants. Many desirable species are propagated by nurseries, and many are relatively easy for home gardeners to propagate. This list will grow as knowledge about propagation techniques and cultural requirements increases, though buyers may have to wait some time for hard-to-propagate species such as orchids. It will also grow as nursery owners become convinced that buyers are willing to pay a fair price for nursery-propagated plants. Meanwhile, plenty of species are available through nursery propagation to satisfy conservation conscious gardeners and enable all of us to avoid the risks and doubts of using wild-collected plants.

This is a reprint from the Fall 1987 issue of the Virginia Wildflower Preservation Society, Vol. 6, No. 4.

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REFERENCE PHONE NUMBERS FOR CHAPTER PROGRAMS:

Athens	-	Scott Moody	-	614/592-5613	Eve.
Cleveland	-	Tom Sampliner	-	216/932-3720	Eve.
Cincinnati	-	Jim Innis	-	513/385-0670	Eve.
Columbus	-	Jim Stahl	-	614/882-5084	Eve.
Dayton	-	Ellen Fox	-	513/897-8139	Eve.
Toledo	-	Denise Gehring	-	419/535-3058	Work
Wilderness Center	-	Glenna Sheaffer	-	419/289-6137	Eve.

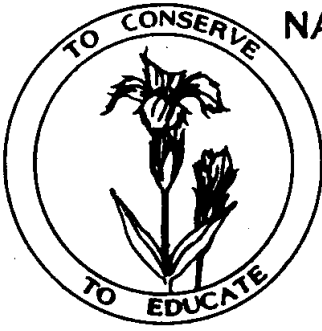
TONGASS EMERGENCY!!

In the November issue of the newsletter we reprinted an article by Dr. Michael Zimmerman of Oberlin College concerning the Tongass National Forest. Recently, Jim Fulton, one of our members, sent me an envelope of material about the Revised Forest Plan for the Tongass. Jim and his wife have been to the Tongass and feel very strongly about the future of this area. The deadline for comment on the Revised Plan is February 1988 and Jim is anxious to arouse as much response as he can. He will share his knowledge with any of you that are concerned: phone number 449-5392.

The November 1987 issue of Audubon Magazine has an excellent article on the Tongass. If you do not subscribe, it is available at any of the public libraries. I urge you to read the article.

This is one of the greatest boondoggles being perpetrated on the American taxpayer in our time. Logging interests, particularly in Japan, are taking our timber, and being paid with American tax dollars for doing so. I quote from the September Sierra Club News: "On the Tongass National Forest in southeast Alaska, the last piece of America's only temperate rain forest is being chain sawed, and American taxpayers are helping. Besides practically giving them the trees, the federal government kicks in \$50 million each year to help the two major southeast Alaskan timber companies, one of which is Japanese-owned, saw down 800 year old Sitka spruce and hemlock trees. The resulting immoderate logging and road building eliminates critical habitat for the world's largest populations of bald eagles and grizzly bears and key spawning areas for five species of salmon."

In addition to the logging conflict there are many other issues that are of vital concern. This is the time and place for environmentalists to take a stand. We diligently preserve the great art, music, literature and edifices of human history for the generations to come. But that greatest gift of all, our natural heritage, is often treated with indifference. If we let the Tongass be destroyed, we have lost one of the last remaining pristine wildernesses on our continent, and with it the species of flora and fauna that make this area a precious museum. Get off your duffs, members, and write Senator Metzenbaum, and Representatives Eckart, Feighan, Kaptur, and Sawyer, and let them know that this issue is of vital concern to all of us.



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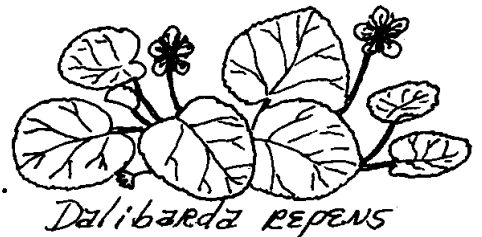
RENEWAL DUE

ADDRESS CORRECTION REQUESTED

Memberships are **DUE FOR RENEWAL** on January 1, 1987. Please continue to support your Society and renew at the **highest** possible category. Those of you who send us Sustaining and Patron memberships are enabling us to go on with our worthwhile projects. An active membership just about pays for the newsletter costs. However, economics aside, we need **EACH** of your memberships and each year we get stronger and better. The 1987 Program and Field Trips schedule will be worthwhile.

Please enroll me as a member of the NATIVE PLANT SOCIETY OF NORTHEASTERN OHIO.

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