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## CALENDAR OF COMING EVENTS — 1986

Jan. 24-26	Eastern Winter Study Weekend	Hotel duPont Wilmington, DE
Feb. 28- March 2	Western Winter Study Weekend	Empress Hotel Victoria, B.C.
June 28- July 2	Second Interim International Alpine Conference (and Annual Meeting)	Boulder and Denver

Cover Picture: *Dodecatheon* sp., Ice Lake, Wallowa Mountains  
Phil Pearson, photographer

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# Bulletin of the American Rock Garden Society



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## And Then, There Are the Dianthus

Richard L. Critz  
Rosemont, Pennsylvania

[Photographs by the Author]

### An Overview

It is all but inconceivable that any rock gardener would fail to plant several kinds of dianthus. These bright, perky plants have long been a backbone genus in the rock garden just about as essential as the rocks themselves. Most species are evergreen, and to make it doubly enticing, they are generally quite easy to grow. Sound attractive? They are. Read on.

The name *dianthus* is from the Greek: *dios* meaning divine, *anthos* meaning flower, translating to divine flower or flower of Jupiter or Zeus. *Dianthus* is a large genus of annual, biennial, and perennial plants divided roughly into three groups: the pinks, the carnations, and the dianthus proper.

The carnations are a 19th century hybrid group of tall double-flowered, strongly scented florist and border plants arising from crosses between two species: *D. caryophyllus* and *D. chinensis*.



The word *pink*, used as far back as 1597 by John Gerard in his *Herbal*, is an Old English word meaning an eye and was probably used first in reference to *D. deltoides*, the maiden pink, one of two native English species. As used originally then, the word *pink* had nothing whatever to do with the color of *D. deltoides* which is a strong crimson to purple.

The term *pink* today refers to a race of hybrid dianthus of relatively recent origin, the predominant parent being *D. plumarius*, a native of southeastern Europe, which was introduced into England in 1629. In 1910, Montagu Allwood started crossing the perpetual-flowering carnations with *D. plumarius* giving rise to the beautiful hybrid race now known as pinks, many of them bearing Allwood's name.

The largest number of *Dianthus* species are native to the Balkans and Asia Minor, with a few from the Iberian peninsula and North Africa, a very few from China and Japan, and two from Europe in general, including the British Isles. Many of the plants in the genus, particularly the pinks and carnations, carry a unique and delightful fragrance, predominantly a clove scent. A number of the true dianthus are dwarfs, ideally suited to the rock garden. There are many which develop compact, low cushions of evergreen foliage, often glaucous. In fact, the foliage is one of the special glories of the genus — refined and beautiful all year long and in the most wonderful shades of gray, blue, and pale to dark green.

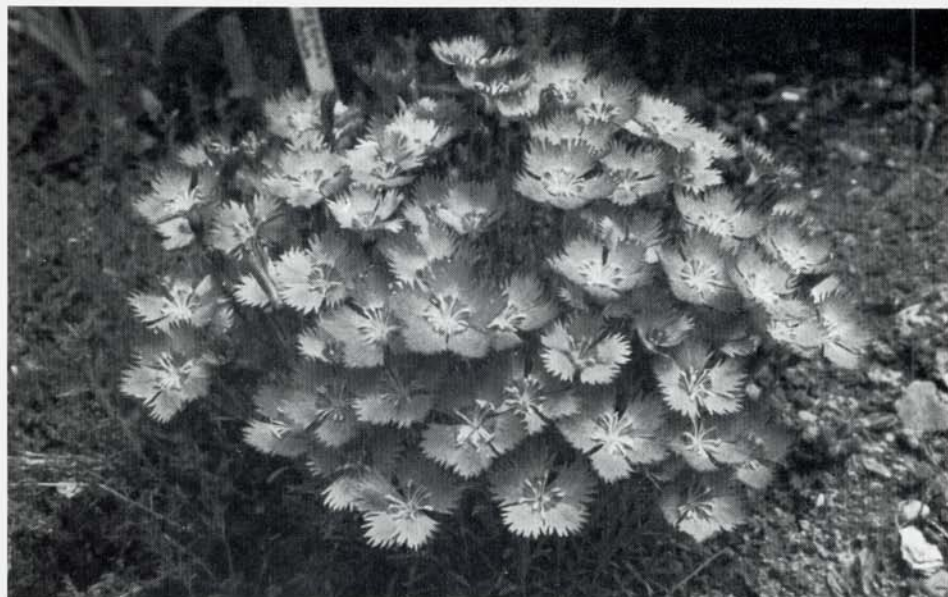
I say peculiarly suitable for the rock garden because the whole tribe undergoes an explosion of color in June after the early spring-flowering alpines are through and before the campanulas have begun to unfold their glorious blues. But many of the dianthus are large, too powerful to trust beside the diminutive jewels of the rock garden. These make ideal subjects for the dry wall, wall garden, or alpine lawn, leaving the really small cushiony ones for the rock garden itself.

Although not strictly carpeting, even the small cushion dianthus can be fitted effectively into the alpine lawn. One or two islands or clumps of them placed beside stepping stones will add greatly to the visual charm and certainly the fragrance of the alpine lawn. Suitable subjects for use in alpine lawns include *D. gratianopolitanus* (*D. caesius*), *D. x 'Fusilier'*, *D. x 'La Bourbrille'*, *D. squarrosus*, and *D. alpinus*. We have used *D. alpinus*, the most elegant of all the dianthus, as a ground cover, planting it thickly over a small area beside our bedroom door. The effect is simply spectacular in spring and the foliage is handsome all year.

### Cultivation

The cultural requirements of dianthus are modest. For the most part they are easy to grow. A well-drained ordinary garden soil, generally neutral to slightly alkaline, in an open sunny position is all that most dianthus require. One should avoid both overlight soils (the plants need lots of moisture) or overheavy soils. Sandy loam describes the ideal dianthus soil, for the plants do require sharp drainage. None will accept heavy, boggy soil, nor survive





*Dianthus caesius*, now *D. gratianopolitanus*

water-logged conditions. If there is any doubt about soil drainage in your proposed site, it is a good idea to raise the bed 6 inches or more.

Most (not all, as we shall see) of the dianthus like a slightly alkaline soil to grow in, a pH of 6.5. Do not add lime until the pH drops below 6, and then, just a couple of handfuls of limestone chips mixed with the top 4 inches of soil is adequate treatment. If a proposed bed for dianthus is acid, pulverized limestone can be added, 4 to 6 ounces to the square yard. Use more on heavier soil; the lime helps to break up clay.

Pinks and carnations in the open garden are a little more fussy than the dianthus proper. These plants, most of them evergreen, come from sunny cliffs and well-drained hillsides in southern Europe; they will have nothing to do with heavy, wet soil or fog, rain, and wet snow. Hybrid pinks also like a fertile soil lightly enriched with mushroom waste or compost, but fertilizer should not be deeply buried. The whole of the genus *Dianthus* is surface feeding, seldom sending roots below 4 inches.

The alpinas and species, dianthus proper, do not like enrichment at all, but do best in just plain dirt, thank you.

Many failures with the hybrids, and with the seedlings as well, are due to root scorch. Dianthus need to be mulched. Try finely chopped leaves or a generous layer of those ubiquitous limestone chips.

Although some will tolerate a little shade, most dianthus require lots of light. Full sun is not too much for most kinds; 6 hours of sunshine is a

good rule of thumb. With that much sun they need lots of water too.

Some growers report that dianthus are a favorite food of bunnies. We have never had any problem here but it is worth watching out for. Mice, too, seem to favor the mats for bed and breakfast in winters of heavy snow cover.

We recommend a good cutting back, shearing is the word, after flowering; the dead heads and seed pods are untidy anyway. A good clipping helps to produce a luxurious fall and winter mat or bun.

An established clump of dianthus will eventually tend to die out in the center. When this happens, a very little lime grit and fertilizer gently worked into the bare spot (a trick we learned from Linc Foster) will often bring the clump back into the pink, so to speak. Or better still, an annual top dressing, very sparing, worked into the center of the cushion after flowering will prevent the unsightly dieback entirely.

Many of the dianthus make excellent pot plants — beautiful specimens. If you choose to keep a few choice ones this way, the following mix is recommended: two parts coarse sand or fine gravel (crushed), two parts leafmold or spent mushroom soil, one part loam, and a scattering of bonemeal. Cover the surface generously with limestone chips for looks, to present the plant as a perfect cushion, and to guarantee surface drainage.

A final word about culture. We grow dianthus successfully in most of the environments that make up our garden: in the dry sand bed that simulates western conditions, in the tufa mountain where most of our alpines flourish, in the open borders, behind the mats of phlox and thyme, and in front of the dwarf evergreens, even in a damp sand bed. In fact, this 8-inch-deep sand bed, which we water weekly in dry periods, is our very best environment for dianthus. They like best the combination of sharp drainage and abundant moisture.

### **Propagation**

Besides being easy to grow, dianthus are easy to propagate. Of the two principal methods, seeds and cuttings, growing from seed is the more satisfactory. A word of caution, though, dianthus are among the most freely hybridizing of plants so that the form of seedlings grown from seed gathered in the garden is unpredictable. For truest results it is best to get seed gathered in the wild or procured from some reliable source. Incidentally, dianthus seeds are easily crushed. Never rub them through a sieve or handle roughly.

Seed can be sown from February to early May, the earlier the better. Sow in flats or boxes placed in a cold greenhouse or cold frame, or sow outside directly in the ground. It is best to use no artificial heat or light, though these do not preclude germination. Seed often germinates in as little as 4 to 6 days inside, 1 to 2 weeks outside. Sow the seed thinly and plan to leave the seedlings in the pan for some time. I keep pans shaded in cold frame or pit, or under lights in the basement until plants are well rooted and growing rapidly. Then I transfer individual seedlings into 2-inch pots, using Pro-Mix or any standard potting soil. Plants must then be kept well watered for several



months. Sometimes (not always) this involves wintering in cold frame or pit with plants ready to go out into the garden early in the spring.

Small seedlings can be safely planted out in the ground when the bun or mat reaches the size of a half dollar. October and March are the best months for putting out new plants in this area, give or take a month toward the summer side. Give the newly planted seedlings a good deal of water until they become well established. All their lives, though, dianthus require abundant water.

Propagation by cuttings is also reliable for most dianthus and is the preferred method with choice plants one wishes to reproduce exactly. Take the cuttings anytime in the summer, September being the very best month. Including a bit of the old wood, a heel, with the fresh shoot is a very good practice strongly recommended by all the old growers.

A good medium for rooting the cuttings might be described as a sandy loam: one part each of tufa dust, sand, and loam and three parts peat or leafmold. This is Hill's formula. Some growers recommend a rooting medium of pure sand.

Pull any dead foliage off the cutting, trim it for absolute freshness, dip in a rooting hormone, and insert in the medium. You can use a flat with plastic tent, a clay or plastic pot which you can watch closely for watering, or a Nearing frame. I do not use my mist system for dianthus; it keeps the tops too wet and the little plants often rot before they root. All things considered, my Nearing frame is my best bet for rooting dianthus.

Just as soon as the plants are well rooted — you don't want to wait any longer than you have to — pot the rooted cuttings individually into 2-inch pots, water generously, and generally coddle the plants until they become well established and are growing. Then, treat them exactly like seedlings.

Some of the hybrid dianthus such as x 'Tiny Rubies,' x 'Pink Bouquet,' x 'Fusilier,' and others will layer in July. You must wound and pin down the branches for this, but it is a reliable way to increase choice plants. Peg the stems securely and mulch rather heavily, not forgetting to water faithfully. After these layers root, leave them undisturbed *in situ* all winter, detaching and moving the following March.

### Varieties for Your Garden

Surveying a huge group of plants such as dianthus is like reviewing the hundred-odd symphonies of Haydn. If you are not a lover of classical music, the music all seems to sound the same, but if you resonate to it the delights that await you are kaleidoscopic and endless — a regular feast of good things. So it is with the dianthus. If you enjoy and appreciate them they are a treasure house indeed. Here are some good things.

***Dianthus alpinus*** is surely the last word in alpine plants — well, one of the last words. The name, of course, means alpine and it pinpoints the Swiss and Austrian Alps, the native home of this incomparable jewel, this collector's treasure. The dark grass-green (never glaucous), short, broad, flat



leaves form inch-high tufts or mounds which eventually become lush, close mats. The flowers, which cover the plant in May or June, are large (about 1 inch in diameter), flat and round, and rest on stubby 2- to 3-inch stems. There is no scent or odor at all. The colors are rich and glowing, varying from a deep red through bright rose, salmon, and light clear pink to white, each flecked in a ring around the center with crimson spots. *D. alpinus* 'Albus' is pure white with a central ring of deep purple spots and a greenish-white reverse to the petals. Lovely! All healthy, happy plants of *D. alpinus* bloom so abundantly that the foliage is completely concealed — a gorgeous sight.

Fittingly, *D. alpinus* is more temperamental than most dianthus and really is most permanent in a moraine. It likes less sun than most of the tribe at our elevation but needs plenty of light and abundant water. It tolerates acid soil very well. As a pot plant it is outstanding. Good forms with good color and habit should be reproduced by cuttings taken immediately after flowering.

***Dianthus x allwoodii*** The allwoodii hybrids, the pinks, are varied as to size, 6 to 30 inches, and color. They may be single or double. A red eye or zone around the center is characteristic of most allwoodiis, as is the very strong and attractive scent. They bloom in summer, many all summer, the longest flowering of all the dianthus. Three wonderful little hybrids, 'Elf', 'Jupiter', and 'Mars', for all the world like little 4-inch carnations, are the very best for the rock garden or for pot culture. *D. x allwoodii albus*, a tall sort,



*Dianthus x allwoodii*

is long flowering and very fragrant indeed.

***Dianthus arenarius*** (sand lover) is a desirable species from Finland, unexpectedly. Its stiff, light blue-green leaves form large 3-inch-high mats from which arise many daintily fringed, fragrant, pure white flowers on 6- to 12-inch stems in late May and June. The stems are often nodding, in which case the flowers look like little bursts of fireworks. Charming!

***Dianthus x arvernensis***, a hybrid of *D. monspessulanus* and *D. sylvestris*, comes from central France. Its symmetrical 2-inch-high cushions of fine ash-gray leaves give rise in late May and early June to tiny ½-inch-diameter clear rose-pink blossoms on 4- to 6-inch stems. This dianthus is like an alpine reduction of the cheddar pink, a little, low, floriferous jewel.

***Dianthus x boydii*** is a good hybrid of *D. alpinus*. It is bigger (to 4 inches), stronger, more robust than *D. alpinus*, and has even larger flowers, a nice clear pink with less pronounced red spottings and markings. And it is deeply fringed. Outstanding!

***Dianthus caesius***, the cheddar pink, would have to be my number one choice of all the dianthus. This glorious plant, a native of central and western Europe and the British Isles, has everything. There is first of all the incomparable foliage. *Caesius* means blue-gray and the 6- to 8-inch symmetrical mound of stiff narrow leaves is just that — a rich, light color that remains the same all year. The single, very fragrant, pale pink to deepest salmon-rose flowers rise on 8- to 10-inch stems, a perfect mate for the foliage beneath, which they often completely conceal. The main flowering is in late May and June with intermittent blossoms thrown all summer.

Best of all, *D. caesius* is easy to grow, quite long-lived and more adaptable than most species to dry places, including walls. If an old plant becomes floppy (nothing is perfect), cut it back severely after flowering and give it a touch of compost at its center in spring to keep it healthy. And enjoy it; that is what gardens are all about.

There are many fine forms. *D. c. albus* has wonderful grayed sea-green foliage with magnificent pure white flowers. *D. c. compactus* is like the type but smaller by almost half in all its parts. *D. c. flore pleno* is a good double, though not quite so perfect as the regular plant. There are hybrids too; 'Little Jock' is one of the best, a dwarf double pink.

Oh, by the way, some callous, insensitive botanists insist on calling this imperial plant *gratianopolitanus*. I think it best to just ignore them and go on doing honor to that wonderful steel-blue foliage.

***Dianthus callizonus*** (beautifully banded) comes from hot limestone ledges in the mountains of central Europe and in many ways is like *D. alpinus*. Though the foliage is not quite so good, it is still a beautiful mat-forming plant, one of the three finest of the genus. The flowers, borne on 3- to 4-inch stems, are a more delicate pink than *D. alpinus* and are slightly toothed on the edges and flecked in a wide ring round the center with both crimson or purple, and white. In our climate, this plant appreciates a little late afternoon shade to compensate for the dreadful humidity of our summers.



Although it is completely winter hardy, it is none too happy in the summer heat. It is difficult to get seed of the true plant, but it is well worth the bother, you may be sure. A true treasure of a plant!

***Dianthus caryophyllus***, the clove pink, as has been noted, is one of the parents of the carnations. The plant is variable in height, from 9 inches to as much as 36 inches. The color of the flower is variable but may be a beautiful red. It is semi-double but fertile so it is well worth the trouble of raising it from seed and selecting suitable clones for your garden.

***Dianthus* x 'Charles Musgrave'** is a 9-inch allwoodii hybrid, a striking white with a green eye that blooms all summer and has a delicious scent. This is something unusual.

***Dianthus* x 'Crimson Treasure'** is one of the best hybrids. It spreads out into wide 2-inch mats which are lovely all winter. Its crimson flowers are never absent all summer long. One of the real treasures, just as it says.

***Dianthus deltoides***, the maiden pink, is the other species besides *D. gratianopolitanus* (*caesius*) native to the British Isles. It is also found throughout the rest of Europe. The name means triangular and refers, one presumes, to the shape of the individual petals. The flowers are not fragrant and though small they are very attractive. The blossoms of the species are purple to crimson, spotted and striped, and are carried in few-flowered clusters on slender spraying 6- to 8-inch stems principally in June, but intermittently all summer.

There are wonderful varieties and selections. *D. d.* 'Brilliant' is an electric crimson, as bright as anything in the garden, and it has dark bronzy foliage. *D. d.* 'Wisley's Variety' is a good strong rose pink. The foliage is a purplish green. *D. d.* 'Flashing Lights' is as vivid as its name. I once had a plant with flowers in three colors, white, pink, and dark red, often all on the same stem.

Plants of *D. deltoides* tend to become ragged in 3 or 4 years and need renewing. The foliage is not the best anyway as it forms quick-spreading, slightly untidy, invasive mats of dark green leaves on trailing stems. Beware of *D. deltoides* in the rock garden proper. It is not to be trusted around treasures, but it is glorious in a wall where the mat hangs behind huge masses of the small, bright-colored flowers. It makes a nice addition to the alpine lawn. A very distinguished plant.

***Dianthus freynii***, a dianthus from the Balkan Peninsula, is best grown on the scree. The short, grassy foliage makes a dense gray-green cushion which means it is an ideal subject for pot culture. The small flowers are a particularly luminous clear rose-pink, borne in June on 1- to 2-inch stems. There is a white form, too. Aristocratic *D. freynii* is thought by some to be a variety of *D. glacialis*, a not-very-satisfying mountain species.

***Dianthus graniticus*** is very much like *D. deltoides* except that it is half the size and only half as rambunctious. Charming!

***Dianthus haematocalyx*** (blood-red calyx) is 3 to 12 inches tall and has glowing red-purple flowers with yellow reverse above the bright red calyces, a combination not unlike *Primula vialii*. It blooms in June and July, has close cushions of gray foliage, comes from Greece and Albania, and is another



good subject for pot culture. Striking!

***Dianthus hybrids*** We have noted a number of good hybrid dianthus and will describe others but might say a word here about hybrids in general. There are hundreds and hundreds, many of them truly excellent subjects for the rock garden. Most are more delicate than the species, constitutionally not very strong, and thus apt to be short-lived. Really good ones should be renewed annually by cuttings. The best forms make 4- to 12-inch-high mats or cushions of foliage with a spread of 6 to 12 inches. Most have silver leaves and flaunt bright, bright colors. Among the best are the tiny (all 3 or 4 inches) 'Fusilier,' 'Grenadier,' and 'Bombardier.'

My appetite for these superb little rock garden plants was whetted years ago when I ordered a packet of seed from the AGS seed exchange marked "Roy Elliott's hybrid dianthus." I got four elegant and utterly charming little plants from that packet, treasures which exist only in slides and in memory now. I only lately learned that you HAVE to take annual cuttings of valuable hybrids in order to keep them. Be warned.

***Dianthus knappii***, from Hungary and Bosnia, is not very long-lived. The sparse foliage is deep green and about a foot high. Furthermore, the plant is rather ungainly; in fact, it's downright awkward. But it has two characteristics that make it worth growing. First, it is unique in its small clusters of clear, pure luminous yellow flowers. And second, it blooms in July and August after all the rest of the tribe has finished and gone. But this, too, must be propagated annually from seed which fortunately it produces fairly generously.



From packet of "Roy Elliott's hybrid dianthus"

***Dianthus* x 'La Bourbrille'** is a well-known cutie. A neat little cushion of silvery leaves gives rise in late spring to small, deep pink flowers on 3-inch stems. There is a white form, too. Both are worth a place in the garden. They grow well in pots but are not so rewarding here as are some other hybrids.

***Dianthus microlepis*** (with small scales) is a scree plant hardly to be distinguished from *D. freynii*. It comes from Thrace in the Balkans and may develop a number of small, pretty pink flowers on 2- to 3-inch stems in late spring. The tiny leaves form a refined green tuft, perfect in a pot, but the plant is shy to bloom and may take 2 or 3 years to develop to good flowering size. It's a doll.

***Dianthus* x 'Mrs. Clarke'** sometimes called 'Nellie Clark,' is a perfectly charming garden hybrid with deep rose, or perhaps cherry red double flowers on 4- to 6-inch stems. It is reported to be a good grower and very fragrant. Since seeing a picture of this plant in *Collins Guide to Alpines* I have coveted it, but alas, have never been able to find one. Maybe some day.

***Dianthus musalae***, a variety of *D. microlepis*, is another scree plant, and a dark, delicate beauty. The name means banana-like, and you've got me why. The whole plant in both foliage and flower has a fragile look. The tiny starry flowers on short stems may be a glowing bright pink. It blooms in spring. One of my very favorite dianthus.

***Dianthus myrtinervis*** (veined like a myrtle) has been one of the most dependable dianthus in our garden. It is long-lived and showy, too. The plant forms a large evergreen mat of tiny, slightly glaucous leaves only ½ inch high. The reddish-pink flowers are held stiffly upright in early spring on 4-inch stems. Three prominent white pistils are visible in each flower. A nice, if not outstanding, plant.

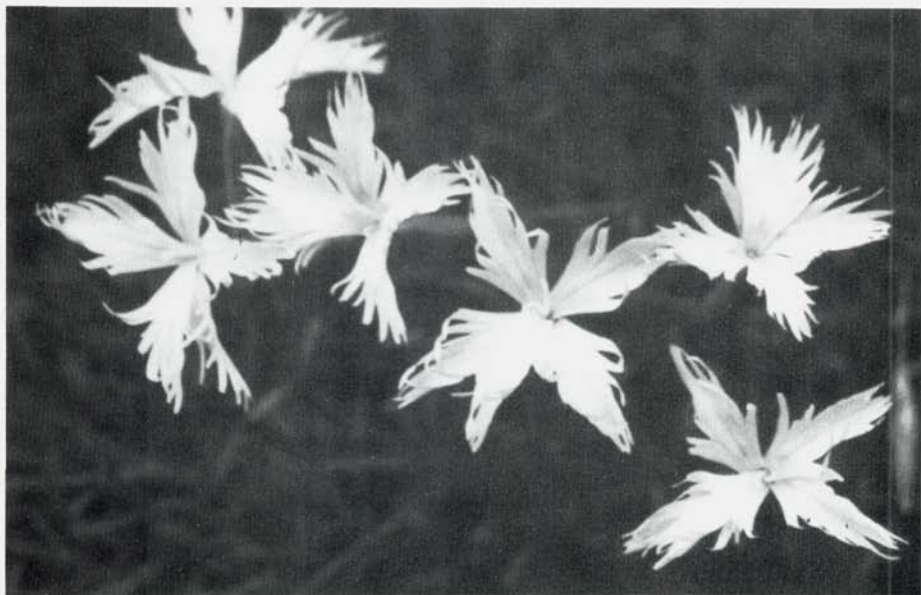
***Dianthus neglectus*** has a name meaning unnoticed or of no importance, a thing which this plant could never be. It is one of the finest of rock garden dianthus, a true collector's plant, one of the greats, the epitome of an ideal alpine.

*Dianthus neglectus*, now renamed *D. pavonius*, is a native of southeast Europe to the Tyrol. It forms a dense inch-high mat of fine linear foliage making a tiny caespitose cushion of sharp-pointed prickly leaves out of which arise on 3-inch stems the large glowing flowers which are more than an inch wide. These brilliant blossoms are a unique, deep, clear rose red (some call it cherry pink), often with a rich blue, sometimes buff center. The petals are buff on the reverse, a characteristic which distinguishes all hybrids of the species as well. The selection *D. 'Henrietta'* is a very tiny, very choice miniature of the species. There are other notable hybrids such as *D. x roysii*, which see.

***Dianthus nitidus*** is a variable kind, 6 to 24 inches, rose pink, notable in that it blooms late, in July and August.

***Dianthus noeanus***, now considered a variety of *D. petraeus*, is one of the best whites. It is a Balkan native. The grassy mass of foliage makes a stiff, spiny cushion about 3 inches high, prickly to the touch. The interesting, very fragrant, single white flowers bloom in July to August atop long, arching,





*Dianthus noeanus*, now considered a form of *D. petraeus*

wiry stems sometimes almost a foot long. These blossoms are very fringed, almost ragged and quite distinctive. This is a fine long-lived plant. It loves walls and rock crevices and must have superior drainage to do well. It requires, too, a stone chip collar to prevent crown rot in hot, muggy weather. Very special.

***Dianthus petraeus***, formerly *D. kitaibellii*, is larger, a fine plant. It grows 8 to 12 feet high with very pale pink flowers. A variety, *D. p. albus*, has good pure white flowers, incredibly fragrant. There is a double white only 6 inches high and very choice. The name means rock loving, which it is. It blooms in June.

***Dianthus pindicola*** is another of those choice slow-growing little scree types. It forms tight 2-inch mounds starred with large deep pink flowers in early summer. This type is easiest from seed and responds handsomely to pot culture. It is presently considered a subspecies of *D. haematocalyx*.

***Dianthus* x 'Pink Bouquet'** is a perfect little cushion of gray-blue leaves smothered in June and again in September with sugar-pink blossoms of delightful scent. A top hybrid.

***Dianthus plumarius***, called the Scotch pink even though native to the European continent, is a famous plant. During the 18th century this species underwent a great wave of speculative development in England as the broken tulips did in Holland. Fantastic, spectacular forms were developed, none of



which remain today. Some, however, like the striped and ruffled kinds, are being redeveloped in the so-called cottage pinks of border fame. The species is now quite overshadowed by its glorious offspring. It makes big spreading, even sprawling mats of rather untidy foot-tall, glaucous foliage which give rise to the generally pink, heavily lacinated and lavishly fragrant flowers borne on 18-inch stems in May and June.

***Dianthus x 'Red Robin'*** is a tall (to 1 foot) bright red hybrid with a white edge all around each petal. Striking and charming.

***Dianthus x roysii*** is a noble aristocrat, a hybrid of *D. pavonius* (*neglectus*) which will come true from seed. It has intense rose-red flowers, each with a blue-gray eye and the telltale buff reverse. Superb!

***Dianthus x 'Spotty'*** (or 'Martinhoe') is another marvelous hybrid to raise from seed. Each petal is marked and spotted in a distinctive and most attractive way. Every plant is different in its markings and in size too varying from 6 to 18 inches in height with flowers from palest pink to maroon. Since it is so easy from seed, we suggest you raise and flower fifty, saving the half dozen best ones for a permanent place in your plantings. *D. x 'Spotty'* requires a bit limier soil than most and a position in full sun.

***Dianthus squarrosus*** is another early summer white, occasionally pink dianthus. This one has spready gray mats and tiny, sparsely produced lacinated flowers on long arching stems. A good flowering is like a display of shooting stars. Pot your seedlings in limy soil.



*Dianthus x 'Spotty'*

***Dianthus sternbergii***, now considered a subspecies of the taller *D. monspessulanus*, grows to 6 inches with rose-red flowers in June. Not bad, but not outstanding, either.

***Dianthus subacaulis*** from the Maritime Alps is a diminutive jewel to 3 inches. Here is another cushion-like plant with grassy leaves and all but stalkless small rose-pink flowers from June to August. Nice.

***Dianthus subacaulis* var. *brachyanthus*** of Eastern Europe is sometimes called *D. integer* in the catalogues. It has short tufts of light gray-green foliage forming 1- to 2-inch-high mats. The tiny waxy white flowers come out in June and July held high on 6-inch wiry stems. The dark mahogany-brown calyces make the whole display very crisp and striking.

***Dianthus superbus*** is an exquisite, if tall, species from Eastern Europe and Asia. It has soft, light green foliage in spreading cushions. Its lovely, fragrant, lavender to pink, lacy lacinated flowers grow on 12- to 15-inch stems in May and June. Quite distinctive and special, though only for the largest of rock gardens. But grow them. They're lovely.

***Dianthus sylvestris*** is not a woodland plant as its name would seem to indicate. It is found on rocky banks throughout the Alps, never in the woods. The fine foliage forms silvery-gray to gray-green clumps. The solitary scentless flowers top slender wiry stems of 6 to 10 inches in early summer. Neat and rounded, the flowers are of a clear creamy luminous pink. A choice and graceful plant.

***Dianthus* x 'Tiny Rubies'** is last but not least. This dear little hybrid of *D. gratianopolitanus* was originated by N. A. Hallauer of Webster, New York. This plant for many years was called 'Sammy.' It features a dense, slowly spreading mat of tiny blue-green leaves only 1 inch high. In summer it is graced by hundreds of ½-inch, fully double deep pink carnations on 6-inch stems. Very fragrant and very choice. *D.* x 'Tiny Rubies' should be in every garden. But keep raising it new from cuttings; it does not set seed. Like so many of the hybrid dianthus, this one tends to be fleeting.

★   ★   ★

With all due respect to such loveable groups of rock plants as *Campanula*, *Gentiana*, *Saxifraga* or *Primula*, in the hot dry summers expected in our north-eastern states the smaller kinds of *Dianthus* win out for longevity and ease of culture. The problem is to get them, and they are worthy of extended search.

— Stephen F. Hamblin  
ARGS *Bulletin*, Jan.-Feb. 1951

Little Joe is at best a sawed-off Carnation of rather displeasing color and to me seems out of place in any kind of rock garden.

— Dr. C.R. Worth  
ARGS *Bulletin*, 1951



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## Donald E. Havens

The death of Donald Havens in April of this year has greatly saddened many gardeners and friends within his sphere of influence because he so generously shared both his plants and vast knowledge in several branches of gardening activities. Don was the founder of the Wisconsin-Illinois Chapter of the ARGS and an ARGS member since 1950.

Don was born in August 1911 in Hackelbarney, Iowa. His early years on a farm instilled in him a love of the soil and plants and also a desire to learn about the natural world. He attained that part of his education through his devotion to reading and many garden hobbies.

As Don's interest in gardening grew so did the need for gardening space. After several moves Don and his wife Marj built a home in Milwaukee which had enough land attached to fulfill all his gardening needs. It was to this home that Don invited all persons within the area who were interested in rock gardening. On that Sunday afternoon in October 1968 the Wisconsin-Illinois Chapter of ARGS was born.

When the doctor declared, "No more mountain climbing," Don turned to the tundra in Canada, along the coast of Greenland, and his beloved Iceland where he made several trips. One trip was devoted to collecting scions of Icelandic willows which were shipped to Rutgers University for propagation. Another trip was devoted to collecting rare Icelandic flora which he propagated to share with ARGS friends. He also became an expert in starting rare alpine seeds, the plants from which he donated to the Chapter plant sales.

Don's most recent garden, which accommodated his infirmities for the last few years, is still set with a long list of jewels of the alpine world. His friend who assisted him in gardening and Mrs. Havens are continuing to care for the garden.

Throughout his many years of membership in ARGS, Don was a regular attendee at study weekends and annual meetings and thereby established many friendships within the national organization.

He loved the tiny plants and also the interesting people who were alpine plant lovers.

— Olive Thomson



## Award Winners

### Award of Merit

Donald E. Havens



Don Havens made many contributions to rock gardening. As much as anyone, he brought rock gardening to the upper midwest by the example of his gardens and by his energetic and enthusiastic proselytization. He founded the Wisconsin-Illinois Chapter, extending the range of the ARGS in the center of the country.

He loved the mountains and their plants, but eventually his heart weakened and could not stand the strain of high altitudes. Instead of seeking the plants in the mountains, he traveled north — the mountain plants of the temperate climates are found at sea level near the Arctic. His travels took him to Iceland, Greenland, Churchill (Canada), and Alaska seeing and photographing his plants.

Don brought the ARGS Annual Meeting to Milwaukee, a meeting still remembered 12 years later by those who attended. He lectured extensively on rock gardening and wrote articles both for the popular horticultural press and the ARGS *Bulletin*. He served as vice president of the ARGS.

Don Havens died April 4, 1985, after he had been chosen for the award but before it could be announced. He will be missed.

— Iza Goroff

## Norman Singer

The Award of Merit is being given to Norman Singer. It might seem unbecoming to be praising publicly a friend of 40 years; my only excuse is that I was pressed into it by Lee Raden and Ken Love. I am really too biased to be doing this, and not always in Norman's favor.

Norman Singer took over the secretaryship of ARGS 3 years ago when catastrophe struck Don Peach and he could no longer continue. There was a crisis at the time as the computer company was causing problems at the same time as a new membership directory was to be published. So Norman was plunged into a new world of middle management surrounded by yards of computer printout at the time that he was learning the intricacies of an antique filing system and the current rules of membership dues payment. Norman's forte is organization. He reorganized in turn the Aspen Music Festival, the Hunter College Concert Bureau, the New York City Ballet, and the Lincoln Center Chamber Music Society. On the side he was on the boards of organizations such as the Dance Notation Bureau and the Country Dance Society of America. However, he seems to thrive on being busy and involved; in fact, he is strictly a type A person.

He has brought this energy and skill to bear on some of the problems of the ARGS. The membership directory came out looking good in spite of a delicate switch from one computer firm to another. At this time the society's tax-exempt status was confirmed and it seemed to Norman a perfect time to combine a celebration of the 50th anniversary of the society with a drive to create an endowment fund for the society. This idea was entirely his own and all the work was his alone. As you know, the outcome was very satisfying. What may be overlooked, beyond the mere fact that we now have an endowment, is the real good that the fund drive accomplished. It revealed a reservoir of good will and love for the society which could only have been conjectured previously. The gifts people made were symbolic of this love and it was easy to see from the messages that Norman received that the society means a tremendous amount to a lot of people. I believe this has been the main benefit — the unleashing of people's affection and desire to be part of the society to the extent that they made donations in many cases of more than they could afford.

I think the increase in membership over the past couple of years is also due in part to Norman's efforts. We have been showered with application blanks at every meeting local and national. A new chapter has also been started with his encouragement and help. The Ontario Chapter already has one hundred members with one of the best newsletters in the organization and a solid group of expert gardeners.

Alongside this activity there was a new system of billing to put in place. This now seems to be working fairly well. I must qualify that statement by saying that the flaws in the system seem to be people flaws. People who





don't use the correct form, don't sign their checks, don't inform of address changes in time, don't write legibly, etc., etc., etc. The worst sin, judging by Norman's reaction, is paying dues early. Apparently this means that Norman has to do the equivalent of filling out the form himself. I don't know the details, but anything outside routine seems to mean extra work.

The work he needn't do but seems to relish is that part of the secretariat that requires personal correspondence. People ask incredible questions involving horticultural advice, availability of plants, reference books and so on. They all get answers. If Norman doesn't know the answer, he consults encyclopedias and catalogs or he calls an expert, but there is always some answer forthcoming. One result of this willingness to help has been a steady exchange of letters, seeds, and other goodies with members in Japan, Czechoslovakia, and other places.

Norman has helped build a strong relationship with our foreign members, especially those who are unable to send dollars for their dues. He has encouraged Poles and East Germans to request sponsored membership. In particular, Czechoslovakia, a country with an enthusiastic group of alpine gardeners, has benefited from this interest. We opened our garden last year to many strangers after being brought to notice through an article in a national magazine. People would visit sometimes after phoning ahead but sometimes by just looking for the mailbox. Halfway through the summer we thought of the idea of charging an admission which would go to the fund for overseas members. We raised a tidy sum for this purpose.

At the moment the secretary's work is running smoothly and it is time for Norman to quit. I must admit putting pressure on him to do this. There has been enough night shift work, insomnia, stamp licking (I figure Norman has swallowed a whole pint of glue already), file sorting, battling with post office regulations and computer errors, with mail distributors and printers. We went to the Western Winter Study Weekend in February, extending our stay to 2 weeks by driving down the coast of Oregon and California to San Francisco with a brief stay to see the Siskiyou nursery people. Any normal gardener would assume that was heaven. And so it was until we returned home to two enormous boxes of mail with nearly a hundred letters to write by hand. That week was warm and sunny, miraculous in March for South Sandisfield. Alas, Norman spent 5 days in the office licking stamps. You would think he would take a break for Dallas or Dynasty, but television got only his divided attention and he paid for even that by working until midnight.

Of course one problem is our isolation. There have been very few typists available. One of the Chamber Music secretaries 120 miles away sometimes does a piece of work for auld lang syne. Another used to live on a religious commune on the most horrendous dirt road in the Berkshires. But even she moved away eventually.

I can't end this picture of hardship and misplaced zeal without recalling one bleak and icy day over a year ago. We were in the middle of the seed exchange and the time had come to deal with the printing and distribution of the seed list, Norman's job for the seed exchange. There had been a heavy snow followed by rain and freeze. Our house is half a mile from the mailbox and Norman drove down to pick up the mail — ARGS mail mostly — and to leave outgoing mail in the box. At the end of the road the snowplow had run into the row of mailboxes putting them out of commission. This meant no delivery or pickup. So Norman set off on a 5-mile trip to the Sandisfield post office over a not-very-well-maintained road. After a quarter of a mile he skidded on a patch of ice and ran into the snowplow. Only his car was damaged; the truck was unscathed. He got the car to a repair shop, I picked him up, and we skidded into a snowbank. It was a month and a thousand dollars later that we got the car back.

I think you will agree that the next secretary should live in a nice warm city with lots of money to pay for readily available help. On the other hand, Norman has done a great job and the society is grateful for his compulsiveness, aggressiveness, friendliness, efficiency, and fairness and for putting up with me nagging him to resign.

It gives me great pleasure to present Norman Singer with the Award of Merit of ARGS.

— Geoffrey B. Charlesworth



## The LePiniec Award

William J. Hamilton

Marcel LePiniec was an early nurseryman and plant collector who worked assiduously to distribute worthy plants. The LePiniec Award is the closest thing to the Nobel Prize of rock gardening. It honors those, like LePiniec himself, who are not only successful horticulturists but who have introduced new plants to horticulture. Such a one is William J. Hamilton who has been toiling away, collecting and dispersing new plants aplenty including everything from giant *Abies borisii* 'Regis' to the tiny *Erigenia bulbosa*. He has introduced well over two hundred species up to the latest seed exchange.

A few of Bill's favorites include maples, rare alliums, Alaskan ferns, dwarf astilbes, *Crocus corsicus* and many other Middle-Eastern bulbs, euonymus, *Fothergilla gardenii*, ornamental grasses, Asiatic hamamelis, dwarf hostas, quite a few ilex, some of the better magnolias, many piceas, pimelea, hardy stewartia, *Taxus baccata* forms, syringa, and forms of *Tsuga canadensis*, as well as viburnums in variety. He is especially interested in native woodland shrubs. We are fortunate that Bill remembers these kinds of plants. Rock gardens need large plants of character, of course, not only as specimens within the garden, but for background and shade for some of those exquisite woodland plants all rock gardeners grow.

Bill's generosity has spread new plants around the world through the medium of the formal seed exchanges and just as importantly, indefatigable personal correspondence and gifts. He is and has been a cornerstone of the American Rock Garden Society almost since the day he joined 25 years ago; but like a cornerstone, he has been very quiet about his role.

Luckily for us, he has not been quiet in general. His enthusiasm for life was first reflected in his distinguished career as an acknowledged authority on mammals of the United States. He taught at Cornell University for nearly 40 years. Along with his courses in field natural history, vertebrate zoology, herpetology, and mammalogy, he says he insisted his students, undergraduate and graduate alike, get a firm introduction to botany, so important to a field biologist. Surprisingly, another LePiniec Award winner, Paul Maslin, was likewise a field zoologist and herpetologist.

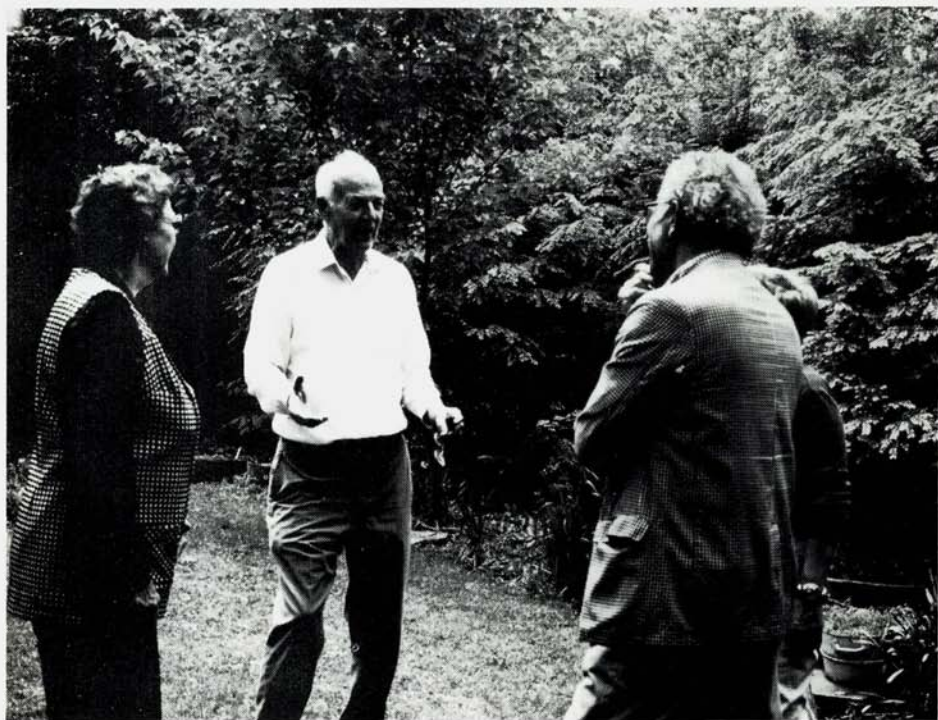
Bill Hamilton began his horticultural career early; his first plant was a potted hyacinth as a Sunday School Easter gift at age 7. Perhaps that is why he quietly puts aside potted bulbs in his garage to give away come spring to those in nursing homes, hospitals, or any place there is a need. He knows what little things can become pivotal events in our lives and is always encouraging those less experienced to grow and to enjoy horticulture.

Bill was born in Flushing on Long Island. As a teenager he trapped muskrats in city parks only 10 miles from Times Square. In the early 20s, he caught rattlesnakes for the Bronx Park Zoo in the Ramapo Mountains only

30 miles from New York City. Ever curious and observant, to say nothing of venturesome, he found rattlers to be docile when still near their hibernating dens in May.

Bill sold bulbs to supplement his teaching income when a graduate student at Cornell where he received his B.S. in 1926, M.S. in 1928, and Ph.D. in 1930. As an undergraduate myself, I first met Bill in 1958 and was overwhelmed. Here was a man at the height of his career, renowned for research (he has written two reference books on mammals) who took such sincere interest in his students both inside and outside class that somehow I found myself with an armload of plants to take to my mother. The most memorable of them was thyme. I like to think that was appropriate for all the time he has given those with whom he has come in contact in his 82 years.

Bill still cares for 3 acres of garden and lawns himself. And what treasures that garden holds! Dwarf and slow-growing conifers are huge specimens, attesting to his early and continuing interest in them. Ever alert to new plants from all over the world, he grows an amazing variety of flowering trees and shrubs and ericaceous plants that, until he tried them, were not known to be hardy that far north. Many of them are unique in the United States. He has been a consultant to the Cornell Plantations for many years and has enthusiastically promoted new woody plants to broaden horticultural choice





not only in his part of the country, but all over the world.

Another of his consuming passions is growing bulbs of all kinds with the intent of introducing new plants to upstate New York where winters are most severe, particularly plants that are not considered winter hardy in that area. His findings have been published in eight articles on bulbs in the *ARGS Bulletin*.

Those who have perused the donor lists of the ARGS seed exchanges for the past 10 or more years will see that Bill Hamilton practically owns Donor #1. This is the fruit of complete dedication. Every season of the year he is gathering seed, cleaning, packing, and mailing it while it is fresh. Nothing escapes his notice. He knows that what is common to us may be much sought after by those overseas. Last year he sent 524 species of seed to the ARGS exchange alone, and the year before, nearly as many. The Alpine Garden Society, Scottish Rock Garden Club, and the Alpine Garden Club of British Columbia all regularly benefit from his diligence and generosity. One of the times the ARGS exchange was teetering in the wind, he talked the small Ithaca group into doing it. Through his encouragement the Minnesota Chapter decided to take the plunge and carry on the seed exchange a few years later. This is an example of one of his most admirable traits. He urges others on to unaccustomed proficiencies, supports their efforts, then fades back and lets them take the credit.

Deliberately I have withheld until last what most people find notable about Bill — his fantastic sense of humor. A big man, his jolly laugh is well known by literally thousands. He loves a good joke, especially on himself, and is not above a bit of harmless hyperbole. Whenever his ex-students get together, the conversation eventually turns to some of the outrageously funny things Bill has done and said. A matchless raconteur, he makes his audiences stare with open mouths, never quite certain whether what he's saying is absolute truth or a monumental fabrication. There is never any impure mixture. Either you are caught laughing uproariously at some pearl of wisdom he means perfectly seriously, or you believe that *Eritrichium nanum* grows in trees, 20 feet up like Spanish moss. However, his humor never hurts; it is only a light entertainment, another gift to his friends which lifts their spirits and takes them for a pleasant ride.

The *Cornell Alumni News*, in a lengthy article about him, said, "Bill Hamilton has incredible energy, extraordinary zest for life . . . and is contagiously happy." The article quoted a colleague as saying, "In fact, Bill, you seemed to be having a wonderful time, whether you were writing, cutting up a stinking carcass, wading in a stream helping some young fellow with his work, or showing your flower garden to some visiting fireman."

Our deepest thanks to you, Bill, and we truly wish you could have been here in Minnesota to receive your well-deserved award in person.

— Betty Ann Mech

## Carleton R. Worth Prize

Mark McDonough

It is with great pleasure that the Carleton R. Worth Prize is given to Mark McDonough. In his writing on *Allium* for the *Bulletin*, Mark has written with interest and ease about a genus in critical need of explication. His own line drawings illustrate his articles on alliums, extending his articulate use of English in a manner most authors must envy. Above all, his writing on *Allium* fills a need with high competence. He may even have convinced several persons that onions can be beautiful.

We hope this award is an encouragement to Mark to write more and often, and his receipt of it a stimulation to others to try to equal his skills.

— Publications Committee



Mark McDonough is a fitting first recipient of the newest of the Society's awards which was approved by the Board of Directors of the ARGS in 1984. "The Carleton R. Worth Prize, commemorating an outstanding plant explorer, seed contributor and editor of the ARGS *Bulletin*, is awarded to an author of distinguished writing about rock gardening and rock garden plants. The prize is given whenever a worthy recipient is found, and not necessarily annually. The prize is made for writing in the form of a book or a magazine article, with special preference given to material published in the ARGS *Bulletin*." The Adirondack Chapter of ARGS has initiated a fund to make this prize possible.



## Native Plants of Vermont

Arthur Gilman  
Litchfield, Connecticut

The small state of Vermont holds a special place in everyone's heart as the quintessential New England. For us natives, it is more than heaven. The poet Ernest Johnstone Browning writes of a Vermonter entering heaven, "a very short time there he resides, then hikes his way back to Vermont." It has many attractions and not the least is its native flora.

A word or two in generality. First, Vermont is a child of the glacier which buried New England beneath a mile of ice, carved deep valleys in retreat, and left throughout most of the state a glacial till of varying depth which has since been modified by the processes of soil development into podzols underlain by till. Second, during the 19th century it was intensively farmed, even the highlands, and was almost completely deforested. The 20th century has seen a reversal of this trend and most of the state is now second-growth woodland. Otherwise, it is a state of contrasts which I shall try to explain briefly.

The retreating glacier left several relict plant communities in its wake. There are two areas of arctic-alpine tundra, one on Mt. Mansfield, the other on Camel's Hump. Nearby there are also relict communities of more southern plants left from the warmer days of the interglacial period of only a few thousand years ago. Thus within 3 miles of one another in one town in eastern Vermont can be found a respectable, several-acre stand of *Rhododendron maximum*, dwarfed to 4 feet by the weight of snow and northern winds, and the beautiful northern *R. canadense*, on a rocky bald.

The central range of the Green Mountains divides Vermont. The western part of the state, under the influence of Lake Champlain, enjoys a somewhat milder climate than the east. It has generally circumneutral soils while the eastern part has generally acidic soils due to underlying granitic intrusions. There are regions of limestone soils and in the northern part, serpentine as well. So much for generalities. Let us look at some exciting specifics.

The spring ephemerals are well known; nowhere do they enjoy better conditions than in a tract of sugar maples (*Acer saccharum*) that is being managed as a "sugarbush" for the production of maple syrup. The best stands have a southern exposure (this is conducive to the day-night fluctuation of temperature that is necessary for a good "run" of sap) and are nearly pure stands of maple which the industrious farmer keeps clean of all underbrush. The floor of the wood has a deep duff of decaying maple leaves and the trees are well spaced allowing bright light in the spring and giving only moderate shade in summer. The southern exposure protects it from cold north winds.

Here one finds the dainty *Claytonia caroliniana* in fair sheets of pink



*Erythronium americanum*

Arthur Gilman photo

(actually each bloom is white, striped purple) for a few days when the mean temperature is about 52 °F. — early May. This common portulaca relative seems too tender for the buffets of early spring but is really a tough customer and one ready to do well in a garden also.

Another ephemeral appearing in large drifts also but providing a thin and waving carpet of singleton leaves only is *Erythronium americanum*. Just occasionally does a blooming size plant lift a mustard-yellow bell flushed bronze on the outside. There are two races, usually found in mixture in any population, one with yellow, the other with ocher-rust anthers.

Common bloodroot, *Sanguinaria canadensis*, blooms at the same time. The spacing of the blooming stalks, about 5 inches apart in each direction, gives a formal aspect to the groups. The flowers are startling chalk-white and glisten bravely in the sun. On overcast days they remain folded into bud, just as the grayish leaves remain folded about the stem.

*Trillium erectum* is the usual trillium of the sugarbush, in clumps of two or three stems. It is tolerant of a wide range of soils but is not so frequently found in the northeastern part of Vermont as is *T. undulatum*. (In the Champlain Valley *T. grandiflorum* is very common.)

Also in bloom in the sugarbush in early May is *Dicentra cucullaria*, palely beautiful; it too has an ephemeral habit. Two species of *Carex* bloom there then: the petite yet carpeting *C. pedunculata* and the clump-forming *C. plantaginea*, with broad pleated leaves uncrinkling as the 12-inch flower stems



show yellow pollen and shiny black scales. This is an admirable plant for the woodland garden; it divides easily, grows well, and is nearly evergreen — a rather bold accent for those who haven't the taste for hostas. In fact, all these plants are quite easy to cultivate, mostly because it is easy to duplicate the humusy rich soil and fairly light aspect. There are many other herbaceous plants that really thrive in these rich mesic areas: *actaea*, *dentaria*, *uvularia*, and *Asarum canadense* at its silky best just unfolding its leaves. Many common ferns do well here; *Polystichum acrostichoides* and *Adiantum pedatum* particularly enjoy the deep circumneutral soil and fairly bright conditions.

One must search in deeper woods for *Polystichum braunii*, first described in America from Vermont, and *Dryopteris goldiana*. Both are not infrequent, but are found in more shade and in less disturbed areas. *P. braunii* is particularly handsome with very shiny pinnae and very chaffy stalks. *D. goldiana* is a splendid, dramatic waist-high plant. In the wild it is always a dark gray-green, but in the garden it is a paler color, probably from too much light.

Vermont is just far enough north to offer a home to some boreal ferns found on the cliffs of the Willoughby region and Smuggler's Notch near Mt. Mansfield in the Green Mountains. *Woodsia alpina* and *Dryopteris fragrans* are found there in impossibly vertical situations, while *W. ilvensis* is occasional on the granitic outcroppings of other parts of the state.

In the Champlain Valley there are to be found sites for the daintier, more lime-loving ferns such as *Asplenium ruta-muraria* and *Pellea atropurpurea*.



*Carex plantaginea*

Arthur Gilman photo

These well-known ferns are happily colored mauvish-gray tones that harmonize splendidly with the sandstone rocks on which they are found. As with most pelleas, *P. atropurpurea* appreciates a dryish situation and so does not do well in my moist, shady garden in the northeast.

The Willoughby Cliffs area is one of the most celebrated botanical sites in Vermont and is fortunately protected by its sheer character. Seven-hundred-foot cliffs drop from the height of Mt. Pisgah to the equally deep waters of Lake Willoughby. This north-facing habitat is so exposed that despite its low altitude (2700 feet) the flora is alpine and boreal, a situation not usually found at less than 4000 feet in the east. I can't claim to have done more than climb to the summit and survey the cliffs with binoculars. Even so, one can easily see *Saxifraga oppositifolia* and *S. paniculata* (aizoon) *neogaea* from the top rocks as well as *Solidago randii*, *Campanula rotundifolia*, *Hedysarum alpinum* and others. Along the trail as it ascends the southern shoulder there is also a nice group of *Clematis verticillaris*, in bloom about Memorial Day, large bells of a type and color that seem foreign and exotic in this site!

In contrast to the Willoughby Cliffs, the arctic-alpine tundra of Camel's Hump is very accessible and is in fact a heavily used area. The Long Trail, the popular trail that traverses the length of the Green Mountains, passes directly over the summit (4083 feet) and on a sunny day in summer hundreds of hikers pass over through the tiny 11-acre alpine zone. Rangers do brave service in trying to coax hikers, their children, and dogs to stay on the trail or at least on the rocks. The plant community is a limited one, probably due to the small size and long distance from any other similar plant community. Three plants dominate the scene above the krummholz: *Carex bigelowii*, *Vaccinium uliginosum* with a beautiful rosy-gray bloom on its tiny round leaves, and *Arenaria groenlandica* which forms sheets of dancing white cups on thready stems. Also here are other alpiners more well known from the White Mountains of New Hampshire in lonely solitaire outposts: *Salix uva-ursi* (only a few male plants), *Empetrum nigrum*, *Prenanthes bootii*. A ranger will usually show an enthusiast these plants, especially if visiting on a day less busy than most but will also watch carefully that nothing is collected. This fragile place, so beleaguered by tourists and acid rain, cannot bear any disturbance of its plants by us.

Vermont, in fact, has some of the most strict laws in the country concerning collecting and sale of wild plants. Most of its more important habitats have been protected as well by state ownership. Others are owned and protected by the Nature Conservancy and other groups with similar goals. All of the specific areas mentioned in this account, except for the sugarbush and the typical upland which are common habitats, are in fact located in state parks and are under similar protection.

The glacier, never far from the Vermont mind, was responsible also for the many bogs in the state which are home to many species of orchids. Presumably the heat retention of the water provides a microclimate somewhat warmer and more stable than others.



One bog with which I am familiar in a limestone region has a nice population of *Arethusa bulbosa* blooming in late June at which time also blossoms *Cypripedium calceolus* var. *parviflorum*, *C. reginae* and others. The acidic nature of the bog is counteracted by the underlying limestone which determines the flora. In a very few cedar swamps, where the white cedar *Thuja occidentalis* indicates the presence of limestone, is found *Calypso bulbosa*. This is considered a rare plant in the northeast, and many groups are working to preserve the few known localities and searching for more. A fairly frequent roadside plant in some areas is *Platanthera dilatata* with its spire of white, unfringed blooms in midsummer.

Another bog, located in Groton State Forest in Peacham, is an extensive "treed" bog and is underlain, not by calcitic rock, but by granite and so has a very acidic character. In contrast to the limestone bogs it seems underpopulated, especially as to orchids. But it is large enough to have several distinct areas with different plant communities. The larger part is the "treed" portion, meaning there are stunted specimens of *Picea mariana* and *Larix decidua* at regular intervals. The mat is here built up into hummocks of vegetation of a shrubby sort. Mature plants of *Ledum groenlandicum*, *Chamaedaphne calyculata*, *Kalmia polifolia*, and *K. augustifolia* rise to several inches and blazon forth with color in mid-June just when the black flies make prolonged visits unbearable. Other ericaceous plants here are *Vaccinium macrocarpon* and *Andromeda glaucophylla*, both of which, however, seem to derive adequate nourishment from the cold sphagnum and do not show any stunting or dwarfism.

All of these plants, by the way, are among the easiest of ericaceous material to propagate. September cuttings of the current year's wood will strike roots easily if stuck in a mixture 50% peat (well decomposed) and 50% sand with 70°F. bottom heat in a polyethylene tent. But, they must not have any fertilizer at all until they have rooted; they also should be kept fairly warm over the first winter.

In another part of the bog, *Smilacina trifoliata*, a dainty star-lily with clammy, smooth foliage, is very thick. Turning to the western portions of the bog there are large stands of *Carex oligosperma* and *C. trisperma*, and the cotton-grass *Eriophorum virginicum*. Occasionally, the vividly colored and grotesquely proportioned *Sarracenia purpurea* lies nearly buried by the luxuriant growth of the sphagnum.

There are few orchids and no showy ones on the bog, but the wood surrounding the bog is a typical upland with *Cypripedium acaule*, a great lover of acidic soil. It is found in locations of different aspects from the dark evergreen wood immediately surrounding the bog to the rocky height of Deer Mountain that overlooks the basin. As you all must know, it is an impossibility in the garden. Many of its companion plants in nature are also exceedingly difficult to cultivate; it is frequently found with *Trillium undulatum* and *Clintonia borealis*, both bugbears to propagate and grow. I pride myself on having all three growing well in my garden, but it is false pride, for my garden

happens to be on such a plot of land. They are natural occurrences which I only help along by restraining competition and feeding lightly. The *T. undulatum* has usually two or three flowering stems, but one particularly handsome specimen has regularly eight or nine — a lovely clump. The reddish foliage is a perfect foil for the chalk-white purple-splashed bloom.

There are many, many more natives of Vermont, well known to gardeners or not, that are worthy of attention. I am sorry to have neglected so many natives in this brief overview — the many violas, the serpentine sandwort — but I hope I have mentioned a few new to members. Some I have experienced with handling but some also I have not in respect for their precarious position in Vermont's wild, although I would like to have, for example, Bigelow's sedge in a rock garden!

I do think that the best clues to gardening come from observations in the wild, whether the design aspect of the spacing of plants as I observed with the bloodroots, or the soil acidity as evidenced by indicator and companion plants, or the color schemes one so happily "discovers" by seeing flowers and foliage in their original places. If you should journey to this corner of the U.S., don't overlook Vermont.



Alpine encounter — While holidaying at a mountain resort in Yugoslavia this year, we shared a taxi to the top of a pass in the Julian Alps. We briefly let it be known to the folks sharing, of our interest in alpine flora. After several hours exploring we were contemplating the return walk of 7½ miles without enthusiasm when we were approached and asked first if we were English and then if we were members of the AGS by a lady with an American accent. After introducing herself and her husband, she informed us of a chance meeting with our taxi friends prompting her to try to contact us. We compared notes and talked of our mutual interest. Our surprise and delight at this meeting were enhanced by the thoughtful offer of a ride to our resort, saving a wearisome walk. Thank you Wally and Bob Alberts of Amherst, New Hampshire.

— Tim and Fred West  
Leicester, England





## European Notebook: A 50th Anniversary, Floraire, and H. Correvon

Margaret and Paul Halladin  
Geneva, Switzerland

*A brief look into the world of rock gardening  
in French-Speaking Europe*

*Les Amis de la Rocaille* (The Friends of the Rock Garden), a French-speaking Swiss group located in Geneva, celebrated their 50th anniversary by holding a special exposition from April 27 through May 12 at Floraire, the historic and well-known garden and former nursery of Henry Correvon. (The spelling of the name *Henry* was obtained from the Correvon family.)

*Les Amis* have about a hundred members who mostly reside in or near Geneva. Their records indicate that they have been continuously active every year for the past 50 with the exception of the war years (1941-1945). Programs are quite similar to ours: meetings once a month featuring speakers on rock gardening subjects or member slide presentations. Visits to gardens of members and field excursions to mountain flower areas are annual summer events. A number of their members have visited the alpine regions of the western United States.

During their exposition, members staged a non-competitive plant show which included well-grown and attractive specimen plants of such items as *Aethionema* 'Warley Rose', *Haberlea rhodopensis* 'Virginalis', and *Orostachys spinosa*. The outstanding plant of the show was a very rare bi-generic hybrid of *Jankaea heldreichii* and *Ramonda serbica* called *Jankaea vandedemii* or *Ramonda vandedemii* and named after George Van Dedem of Geneva. This plant was in a 10-inch pan. The leaf rosette was about 5 inches across and tightly planted between large pieces of tufa. There were five upright flower stems of about 6 inches each with three large clear blue flowers, larger and more open than *Ramonda serbica*.

One member exhibited many troughs illustrating various sizes, shapes, and methods of planting. Among the plants in bloom in the troughs were *Androsace villosa*, *Saxifraga stribrnyi*, and various dwarf gentians and erigerons. Of particular note was a large piece of very hard wood hollowed out and very well planted; this piece of wood had been submerged in a cold mountain stream for many years and had been partially scoured and shaped by the action of sand and gravel in the water — quite effective.

Of special interest to us was the emphasis placed on an exhibit of planting materials. On display were three kinds of peat including that very special coarse mountain peat with which one Swiss grower has had so much success (more on this in a subsequent article), a special kind of silica sand, a very coarse quartz sand of a uniform grade, and also coarsely ground tufa. It was evident that here too many materials are used to nurse along intracta-

ble species.

Memorabilia of the group and of individual members were also on display. Of note were very old herbarium sheets dating back as far as 1899, many old botanical tomes, and a folio of photographs of member outings for most years dating back to the 1930s. Another display contained a collection of posters including one of terrestrial orchids, medicinal plants, poisonous plants, and wildflowers of the fields and mountains. There was also a large outdoor display showing the various stages of actually constructing a rock garden. All in all, it was an impressive exposition for a relatively small group to mount, in particular for such a long period as 16 days.

The exposition not only celebrated the 50th anniversary of *Les Amis* but also inaugurated a competition among local landscape architects who were invited to submit designs for the conversion of the former Correvon nursery into a public park incorporating the existing Correvon garden or a redesigned version of it. The nursery property was purchased in 1981 by the village of Chene Bourg, a suburb of Geneva, for the purpose of creating a small park. It is expected that the park will be completed in 1987.

Floraire, the Correvon garden, is really in a different world, far away from the congested traffic and noise of Geneva. As one approaches on the street, it is probably not even necessary for a plantsperson to look for a printed sign, for behind a long 5½-foot-high stone wall, planted on top with various succulents, aubrietas, and alyssum, stand large and unusual trees such as *Cedrus libani* planted in 1903, *C. atlantica* 'Glaucua' in 1906, and *C. atlantica* in 1909, trees not ordinarily seen outside of botanic gardens. One end of the property is dominated by a large traditional mountain-type chalet in the Vaudois style. This has been the home of the Correvon family since 1902, and still is.

The garden of Floraire as it stands today is a remarkable testimony to the technical skill and creative ability of Henry Correvon. Virtually everything known to the world of rock garden construction is present from raised beds to rock outcrops and from pools and meandering creeks to waterfalls all artfully constructed of a porous, deeply eroded limestone of great character. The workmanship of so large a rock garden takes on a special meaning when one realizes that almost all of the construction and original plantings were done prior to World War I, between 1902 and 1912. Most of the garden, then, is 70 to 80 years old. Even though the Correvon nursery ceased commercial operation in 1980, the garden has been well maintained and provided a superb setting for the 50th Anniversary Exposition of *Les Amis*.

As one strolls through the garden, the outstanding impression is that of the extreme age of many of the plants, some so old that they became impressive and even spectacular, though one might not give them a second glance in their young form. Among the noteworthy in this category were superb, huge plants of *Alyssum saxatile* in a raised bed together with various species of *Iberis*, *Lithospermum*, *Genista*, and *Ephedra*. These specimen plants were all in bloom except for the *Ephedra*. They ranged in size from 4 feet





Correvon house and garden, mid-1930s



Raised bed at Floraire, 1985

M. E. Halladin photo

to 9 feet across and were obviously older than any we had ever seen anywhere else. Most of these plants were in the largest raised bed in the garden: 91 feet long, 8 feet wide, and about 42 inches high, built in 1902. Is this possibly a testimony as to the efficacy of a properly constructed raised bed in promoting plant vitality well into extreme old age? Another large raised bed constructed mostly of tufa in 1910 ran parallel to the first raised bed and contained a massive collection of ramondas and haberleas interspersed with *Asplenium trichomanes* on its northernmost side. The top of this bed had a most luxuriant carpet of *Paronychia kapela* ssp. *serpyllifolia* imbedded in every piece of tufa exposed to the sun. Here and there were various encrusted saxifrages but no trace remained of the difficult treasure *Jankaea heldreichii* or of *Primula allionii* that reportedly flourished there for many years prior to 1936, according to Mr. Correvon's book.

Most of the plants referred to in the foregoing paragraph were mentioned as being originally planted in these raised beds between 1902 and 1910 and were featured in photos in Correvon's book published in 1936. We have mentioned those plants referred to by the author as having great longevity. Even though we have no definite proof that these plants are over 70 years old, their apparent large size together with trunk and branch thickness lead us to that conclusion.

Historical note: it was right here on these very paths over 70 years ago that Reginald Farrer had his controversial discussion with Henry Correvon about moraine construction, regarding the inclusion of peat or decomposed plant material in the coarse gravels and sands of a true moraine. In addition, the list of visitors reads like a who's who of the horticultural world and even included such gardening enthusiasts as Boris the First, King of Prussia; M. McDonald, Prime Minister of Great Britain; and Sir Austen Chamberlain, Foreign Minister of Great Britain.

The name of Henry Correvon is well known in ARGS circles. It has appeared many times in our publications and has been mentioned in many a lecture, and yet there is little in print about his accomplishments and why he deserves to be famous.

Henry Correvon was truly a man for all seasons: botanist, landscape architect, plantsman, nurseryman, creator of many of Europe's finest gardens, plant explorer, plant preservationist, author, and horticultural journalist. He was the author of thirty-seven books on various botanical subjects, all in French except *Rock Garden and Alpine Plants*, published in 1930. His first book *Les Plantes des Alpes* was published in 1884, his last in 1936. He also wrote 130 articles for the famous old English monthly magazine *Gardeners Chronicle* prior to 1900. In addition, he was a tireless contributor of articles to French, Belgian, and Swiss gardening publications. In fact, one could say that this man was *the* most zealous missionary for the art form of alpine and rock gardening of his era.

He was the first president of a rock garden society in Switzerland in 1896 (*Societe Botanique de Montreux*).



He was the first president of the original Association for the Protection of Plants in Nature (English translation) in 1883 and remained as president for 20 years. It had over 600 members and included botanists and horticulturists from all over Europe who were trying to stop the depredations of plant collectors who dug up vast areas in the mountains and collected bulbs and plants by the cartload for resale to nurseries.

He was a founder and builder of the first high mountain alpine botanic garden in Europe in 1885 near Val d'Anniviers. He was also a founder and builder in 1896 of one of the oldest currently existing high mountain gardens located in the peaks above Montreux and called *Rochers de Naye*. This garden at 5400 feet elevation is a must for any alpine enthusiast in Switzerland from mid-June through September. *Corydalis cashmeriana* growing and blooming in the open is among its many treasures.

He was one of the very few growers of his era to be able to propagate *Eritrichium nanum* and was reputed to have been able to keep individual plants alive for as long as 4 years. (This is done today in Switzerland by using very coarse and fibrous mountain peat as the principal potting medium.)

He visited the United States in 1927 by invitation of various garden clubs. He also visited many of the botanically interesting areas throughout the country including the west coast.

Henry Correvon was a tireless exhibitor of alpiners and alpine gardens at shows all over Europe. He won his first prize in 1877 and by 1900 had accumulated forty-eight major prizes and honors. He entered exhibitions in France, Belgium, Italy, and England as well as in Switzerland. His last competition was in 1936 in Geneva ending fifty-nine years of competitive exhibitions. It is surely safe to say that there are few in our rock gardening world past, present, or future who can or ever will match this record.

Special mention and our thanks go to Mme. Ariane Maillard-Correvon, great-granddaughter of Henry Correvon and current president of *Les Amis de la Rocaille*, who was a most gracious hostess and in particular for her generosity in giving us a book written by Henry Correvon in 1936 containing much of the historical data mentioned.

Special credit goes also to Mlle. Felicie Plasman of Sampan, Dole, France, the AGS representative for France, whose timely invitation enabled us to attend this anniversary event.



There is more in a rock garden than its flowers, rocks and shrubs. There is space, all enveloping, all embracing space. The relations in space of rocks, shrubs and flowers constitute an exquisite system of beauty that exists beyond and outside the mere beauty of its flowers.

— Walter D. Blair  
ARGS *Bulletin*, Jan.-Feb. 1950

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## Hazel Feakins Smith

Hazel and Don Smith had a recipe for success. It hung just inside the kitchen door at Watnong Nursery in among the Certificate of Appreciation from the United States Department of Agriculture for the Watnong Collection of Dwarf Pines they had donated to the National Arboretum, the 1971 Marcel LePiniec Award bestowed on them by the American Rock Garden Society, the 1980 Florens DeBevoise Medal from the Garden Club of America, the Large Gold Medal from the Massachusetts Horticultural Society, the 1980 Certificate of Merit from the Pennsylvania Horticultural Society and the 1980 plaque designating the collection of Hinoki Falsecypress at the Frelinghuysen Arboretum in their honor.

*To laugh often and much;  
To win the respect of intelligent people and the affection  
of children;  
To earn the appreciation of honest critics and  
endure the betrayal of false friends;  
To appreciate beauty and find the best in others;  
To leave the world a bit better, whether by a healthy child,  
a garden patch or a redeemed social condition;  
To know even one life has breathed easier because you lived.  
This is to have succeeded.*

—Ralph Waldo Emerson

Don and now Hazel have left us, and some of the warmth and color have gone from our lives. Hazel was outgoing with a special gift for loving people. You saw it in her eyes and you felt it in her hands too. She conquered hardships with patience, despair by hope, fear by courage and hate by love. Both Don and Hazel seemed to know the monument to them would not be built of wood or stone but of love and caring for others. Their memorial is the joy that gardeners, today and always, will derive from the box huckleberry they helped to save from extinction, the box sand-myrtle they propagated and distributed, and plants like the 'Carol Mackie' daphne and the 'Watnong Star' hemlock they introduced. Hazel will never truly leave us. She will live on in the kindnesses she showed, the comfort she shared and the love she brought into our lives.

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## Portable Frames

Frederick K. Watson, Jr.  
East Alstead, New Hampshire

Whether you are an alpine, subalpine, or woodland gardener, here is a way to extend the range of plants you can grow, to ensure against the extremes and caprices of winter weather, and to have healthier specimens than those sad wasted invalids which retain only a germ of living plasm buried amongst dried or rotten leaves and stems by the end of a long cruel winter. I am here describing portable cold frames, nothing new, but with some refinements that really make them work.

I'm in Zone 4 of southern New Hampshire, altitude 1300 feet. We often have a deep snow cover that lasts all winter; many times we do not. Usually the snow doesn't come until January after much damage has already been done. We nearly always have spells of temperatures of  $-20^{\circ}\text{F}$ . lasting a week or so. Then of course come thaws, rain, drying sun, and wind: the same problems many of us face to greater or lesser extent regardless of zone.

Being an optimist, especially in the spring with the catalogues before me, I have ordered over the years plants suited to Iran, Spain, or New Zealand, but not to my climate. After losing the plants during the first, second, or third winter, I would try different microclimates and hope. Microclimate changes in my garden, however, could not afford the range of conditions existing over the whole world, and hope was no help at all. For example, because *Lithodora diffusa* is admired by those acquainted with it, I tried it. After it died in the open the first winter, I tried it again in shade. The second winter a flowerless sprig survived; the third winter finished it. Then one fall I built an alpine house, not just for *L. diffusa*, of course, but for all those not-so-hardy beauties I coveted. This house has all kinds of solar contraptions and even heat to keep the temperature above freezing. Now I have some control over what nature presents, but there are drawbacks. Space is limited. Things must be tended especially with regard to water; there can easily be too much or too little. Then too, lots of pots crammed into a small space disallow the aesthetic arrangement possible in a garden.

So here's what I've done. Following Norman Deno's suggestions for a sand garden, I planted some sun and heat lovers such as *Convolvulus cneorum* and acantholimon in 6 inches of road sand overlaying garden compost mixed with  $\frac{3}{4}$ -inch rock. By the end of summer they were quite robust. To protect them for the winter I made a 2-foot-high A-frame of two by threes and plywood. On the south-facing side I applied two layers of a fiberglass material called Filon. (There are other trade names for similar materials made especially for greenhouse construction and available at greenhouse supply houses.) The two layers were separated by 1- by 3-inch strapping. The back and sides had 2-inch styrofoam batts snugly fitted inside the plywood. Inside this was a



Portable protective frame in place

Frederick K. Watson, Jr photo



Protected site after being uncovered

Frederick K. Watson Jr. photo



layer of polyethylene making an airtight seal. The width of the frame was 4½ feet, the length 8 feet.

I placed the frame over the preplanted rectangle in late fall, hilled some sand around the edges to seal it and walked away from it until the next spring. On opening it I was amazed to see what had survived and how well. That year, however, I made the mistake of removing the frame entirely in March. Along came the to-be-expected cold snap and the defenseless plants already started into new growth were severely damaged. Also mold had taken a toll killing parts of plants, especially dense fuzzy ones. These frames can and should be propped up or just cracked on sunny days in winter and particularly in early spring. Don't forget to throw in a few bags of Ramik or other mouse poison if you love your plants more than mice.

Now *Lithodora diffusa* 'Grace Ward' is a beautiful but aggressive complement to *Phlox adsurgens* and *Verbascum* 'Letitia.'

This scheme gave such good results that last year I built a larger model 12-by-12 feet and 6 feet high, made in four sections to be carried to and assembled on the spot. In addition I buried 1-inch-thick styrofoam of the cellular, non-water-absorbent kind 2 feet deep around the perimeter so as to insulate the ground too. On the back was an insulated lift-off door so that I could step in at any time to water or just enjoy the garden. Near the first of the year I needed to do a good weeding. Late winter and early spring I cracked the hatch or took it off altogether. One of these large portable frames was provided with a very small electric heater hung from the roof and activated by a refrigerator thermostat set at 32 °F. In this frame a maximum-minimum thermometer showed a minimum temperature of 32 °F. but a maximum of 130 °F. There was no mold damage.

In another frame of the same construction but with no heat and situated in the shade of a pine, the ground remained frozen. Unfortunately, I didn't record temperatures in that one.

Here are the results of 3 years' experimentation.

#### Plants Surviving in Small Frames

*Acantholimon androsaceum*

*Alstroemeria pulchella*

*Anchusa caespitosa*

*Anemone obtusiloba*

*Antennaria suffrutescens*

*Anthericum liliago*

*Anthyllis hermanniae compacta*

*Armeria pungens*

*Brachycome rigidula*

*Linum rhodopaeum*

*Lithodora oleifolia*

*Menziesia ciliicalyx*

*Morisia monanthos*

*Myosotis australis*

*Ophiopogon planiscapus*

*Oxalis adenophylla*

*Parahebe bidwillii*

*decora*

<i>Calandrinia caespitosa</i> <i>umbellata</i>	<i>Penstemon barrettiae</i> 'Crystal'
<i>Calochortus venustus</i>	<i>fruticosus</i> var. <i>serratus</i>
<i>Carex comans</i> <i>conica</i>	<i>linarioides</i>
<i>Carmichaelia cunninghamii</i> <i>enysii</i>	<i>roezlii</i>
<i>Celmisia coriacea</i> <i>dallii</i>	<i>rupicola</i>
<i>Chrysanthemum atlanticum</i>	'Will Ingwersen'
<i>Corokia cotoneaster</i>	<i>Pernettya mucronata</i> <i>variegata</i>
<i>Daphne arbuscula</i> <i>collina</i>	<i>Phlox adsurgens</i> 'Mary Maslin'
<i>jasminea</i>	<i>Phyteuma comosum</i>
x <i>Mantensiana</i>	<i>Plantago nivalis</i>
<i>retusa</i>	<i>Polygala calcarea</i>
<i>tangutica</i>	<i>Potentilla eriocarpa</i>
<i>Delosperma nubigena</i>	<i>Ranunculus lyallii</i>
<i>Delphinium cardinale</i>	<i>Raoulia grandiflora</i> <i>lutescens</i>
<i>Diascia cordata</i>	<i>Sagina boydii</i>
<i>Echinocereus purpureus</i>	<i>Salvia caespitosa</i>
x <i>Gaulnettya wisleyensis</i>	<i>Silene hookeri</i>
<i>Genista dalmatica</i> <i>pulchella</i>	<i>Sternbergia lutea</i>
<i>Gentiana saxosa</i>	<i>Teucrium polium</i> <i>subspinosum</i>
<i>Helichrysum bellidioides</i> <i>plicatum</i>	<i>Thymus cilicicus</i> <i>doefferi</i>
<i>scapiforme</i>	<i>Trachelium</i> sp. (Turkey)
<i>selago</i>	<i>Tuberaria lignosa</i>
<i>Leptospermum humifusum</i>	<i>Veronica bombycina</i> <i>thymoides</i>
<i>Leucogenes grandiceps</i>	<i>Viola beckwithii</i>
<i>Limonium minutum</i>	<i>Wahlenbergia albomarginata</i>

#### Plants Surviving in Large Frame with Minimal Heat

<i>Antirrhinum molle</i>	<i>Hebe christiansii</i>
<i>Arctostaphylos nevadensis</i> <i>nummularia</i>	<i>pauciramosa</i>
x 'Wood's Red'	whipchord species
<i>Berberis buxifolia</i> 'Nana'	<i>Helichrysum hookeri</i>
<i>Calochortus bruneaunis</i>	<i>Iris aucheri</i> <i>bucharica</i>
<i>Ceanothus prostratus</i>	<i>Juniperus communis</i> 'Compressa'
<i>Convolvulus cneorum</i> <i>sabatius</i>	<i>Ligustrum japonicum rotundifolium</i>
	<i>Linum capitatum</i> <i>suffruticosum</i> 'Nanum'



*Crassula sarcocaulis*  
*Cytisus demissus*  
*Fritillaria graeca*  
*Hebe buchananii* 'Minor'

*Lonicera nitida*  
*Moltkia suffruticosa*  
*Quercus sadleriana*

### Plants Surviving in a Large Shaded Unheated Frame

*Arctostaphylos thymifolia*  
*Arum pictum*  
*Calceolaria lanceolata*  
*Corydalis ambigua*  
*Daboecia cantabrica*  
*Gaultheria adenothrix*  
    *antipoda*  
    *humifusa*  
    *ovatifolia*  
    *trichophylla*  
*Helleborus foetidus*  
*Kalmiopsis leachiana*  
*Mitchella asiatica*  
*Ourisia macrophylla*  
    'Snow Flake'  
*Pernettya mucronata*

*Pieris japonica*  
    *phillyreifolia*  
*Primula aureata*  
    *bracteosa*  
    *edgeworthii*  
    *gracilipes*  
    *sonchifolia*  
    other petiolarid hybrids  
*Rhododendron* 'Carmen'  
    'Chinzan'  
    *forrestii* var. *repens*  
    *keiskei*  
    *leucaspis*  
    'Rukizon'  
*Selaginella watsonii*  
*Vaccinium delavayi*

## Six Idaho Batholith Endemics

Roy Davidson  
Seattle, Washington

There is in central Idaho a vast tract as rugged as is to be found any place. About 8500 square miles of it constitutes the county also called Idaho, a maze of steep timbered canyons as much as a mile deep lofting to 8000-foot summits, for a gain of over 7000 feet above the lowest point of the state where the conjoined Clearwater and Snake Rivers depart it on the final run to the Columbia at the mere 740 feet of the river port of Lewiston.

Until only recent years, this huge county has appeared on maps to be a nearly trackless area except for its waterways, for the north-south Highway 95 on the western flank, and for Elk City somehow plunked down in the middle of somehow gentle terrain at just over 4000 feet with a road to it but not much beyond. Mount Idaho, now a shadow of a ghost town near Grangeville, was a one-time territorial capital in the days of mining camps.

This is all located on the Idaho Batholith, a single granite block that extends quite across the state from Oregon in Hell's Canyon to Montana at the Bitterroot summit. The drainage is all westerly to the Snake mainly through the Clearwater and Salmon tributaries, the first quite calm but the latter a wild white-water torrent of adventure long known for good reason by the Indian name River-of-No-Return. Today's Lolo Highway follows a mainly riparian gradient in approximation of the ancient Indian route to the buffalo, historically familiar as the Lewis and Clark Trail. Farther to the south the Nez Perce Trail, also crossing the Bitterroots, takes a ridge route, one on which a stagecoach line interconnected the Idaho and Montana mining camps. Otherwise Idaho County, much of it set aside in federal preserves, remains mostly undisturbed except for forest service access and a little agriculture.

There is plentiful evidence of this having been an important east-west migrational track relating the floras of the Great Plains and Rocky Mountains with those of the Wallowa, Columbia Gorge, Wenatchee, and Olympic regions most obviously, with quite a number of endemic species to be found as dropouts along the way. Some peaks, though not really high, have protruded above the ice of glacial times, thus preserving their plants.

On Coolwater Mountain, that massive timbered ridge between the Selway and Lochsa watersheds, the consequent accumulation of loess and humus is nothing short of astonishing in a rocky world of canyons. There the forest canopy consists mainly of thuja beneath which a cover of hundreds of acres of five-finger maidenhair creates a peace and quiet in an aromatic coolth not to be dreamed of. And here at the confluence of the two waters, whose mergence forms the Clearwater, is to be found the remarkable occurrence in Idaho of the otherwise coastal *Cornus nuttallii*. Migrational tracks for this and for yerba buena (*Satureja douglasii*), *Chiogenes* (*Gaultheria*) *hispidula*, *Mahonia* (*Berberis*) *nervosa*, and dutchman's breeches (*Dicentra cucullaria*) have likely been obliterated in glaciation. Were they all spread widely across the continent before the ice?

Of the six endemics to be here discussed, a single one is much grown in gardens. Others are so newly found as to not yet have had trial. Some occur widely dispersed over a large area or locally plentiful in a smaller one. Some are peculiar to only the narrowest of circumstances, a consideration that may or may not limit garden adaptability. Here they are arranged chronologically as to their appearance on the botanical scene.

***Waldsteinia idahoensis*** Discovered and described by pioneer botanist Charles Vancouver Piper, author of the first Washington State flora and professor at Washington State University in Pullman, the plant has been known since 1902 yet not much grown. It is a ground cover spreading through sunny moist meadows of the Lochsa by extensive rhizomes, the leaves rounded and lobed as well as fine toothed and sparsely hairy. Leafless stalks bear three to perhaps six creamy roseling flowers reminiscent of those of strawberries in late spring.



***Cardamine constancei*** Found originally by Dr. Lincoln Constance during his tenure at Pullman, the plant was named for him by the Oregon specialist in the genus, Dr. Detling, in 1935. This is a nice enough species of its sort very early in spring when fragrant pink crucifers top the leafy stalks. The leaves are simple and not at the bottoms of the stalks as in others of the species. Short thickish rootstocks ramble about in the Selway-Clearwater woodland. The plant fits well in the woody garden with dicentras, similacina, violets, and the like.

***Synthyris platycarpa*** A species first found by Dr. Gail, botanist and gardener enthusiast at the University of Idaho at Moscow and co-described with Dr. Pennell, specialist in the family, of the Philadelphia Academy in 1937. It is one of the abundant carpeting plants in the nunatak areas of the Selway from mid-altitude to summit and bearing strong resemblance to *S. schizantha* though slighter and with more rounded leaf. Fringed blue "veronica" blossoms are very pretty in late spring. The plant is similar also to the evergreen Lochsa *S. missurica* known to Lewis and Clark but found at generally higher altitudes on the adjacent drainage to the south and not elsewhere.

***Dasynotus daubenmirei*** An unusual silky borage, this plant bears large almost luminous white flowers on clumps of foot-high leafy stalks in summer. It was found by and named for ecologist Dr. Rexford Daubenmire who was at both University of Idaho and Washington State University. With his wife Jean, he found the plant at the back door of their fire-watch north of the Lochsa in the mid-40s, a survivor of the ice age. It has been grown by the Daubenmires in the arid Palouse Prairie though it comes from the alpine or subalpine zone.

Dating only from 1981 the last two of this sextet of Idaho endemics are so new as to have had little trial as yet in cultivation. One of them has been recorded in the herbarium for nearly 50 years, though newly described to science.

***Douglasia idahoensis*** After a considerable search this plant has been verified as distinct from other species, occurring on only a very few of the highest peaks of the county and to the south in the next county. It was described by Dr. Douglass Henderson currently at the University of Idaho. The plant has a more succulent look than other douglasias. Compact matted plants produce umbrels of rosy flowers in the alpine zone and share stony cool ridges with another of Idaho's notable wildflower gems, *Chionophylla tweedyi*, though not quite such a rarity.

***Saxifraga bryophora* ssp. *tobiasiae*** This at least has, in a presitigious genus, a degree of curiosity value. The type for Asa Gray's species was from mid-Sierran alpine regions; this new one apparently came on a migrational track from the south. It was found and described by Grimes and Packard in a hanging valley in the Little Salmon River drainage. Persisting as tiny bulbils dropped from aborted flowers, the plant is not perennial in the usual sense. Such flowers as do develop top off a slim stem above a few thickened basal

leaves and are oddly asymmetrical with a trio of similar petals flanked on either side by a smaller pair set at an odd stance all shining white, with bright yellow spotting exquisitely precise and requiring a hand lens.

This part of the Gem State has other good plants not so well known as might be, one reason being the inaccessibility at the right season. Salmon, Seven Devils, and Snake territory provides the violet colored and violet scented *Primula cusickiana* which flowers and is gone before the snow melt allows roads to be passable. Though not easily grown, it has been flowered in cultivation by a learned and patient few. There is on weathered basalt in these same canyons the oddly pretty little shrub *Glossopetalon nevadense* var. *stipuliferum*, a relative of euonymus and pachistima, its bloom looking far more like four-part plum blossoms in earliest spring. *Penstemon idahoensis* also is confined to the Idaho Batholith. There may be other plants yet unknown in this big area, Idaho County, Idaho, named for the light on its shining mountains.

## Garden Ecology

Paul Palomino  
Seaford, New York

Just a few musings and idle thoughts as I sat in the back of my garden one Sunday to watch and check the sun as it swept across the garden in late July, temperature 95 °F.

If you are like me, you must wonder why certain plants used to grow well for you and now they don't and why others won't grow at all. The following are just a few thoughts and possibly a few answers.

I knew when I planted my tufa mound that one side got filtered morning sun and the other hot afternoon sun and I planted it accordingly. Plants that grew in those positions no longer do so. Background trees have grown larger and higher. Other shrubs have been moved due to crowding. All of this may not be earth-shattering but it does affect the ecology of a garden in relation to sun, shade, air flow, and shelter from winter winds.

Check your garden and you will find that some of your rare gems are no longer with you while others are growing rampant. When I find the latter to be the case, I take a deep breath and with a firm hand I start thinning out, tearing out, and if the plant is worth it, I move it. Plants that like their positions often self-sow with abandon. They are good sources for plants sales and for give-aways to garden visitors.

Check your garden more carefully and take stock of which plants are growing well in a given location. Use that location for similar plants. I used to be one who planted plants in locations where I thought they would or should grow. Alas, they didn't. Yes, I guess I still do choose locations, but



now I plant three or four plants in different places and hope one will suit the plant. Plants often defy what books say, especially the many English gardening books written for their climate.

How do you choose where to plant seeds? Part of the seed from my garden gems and from the seed exchanges, I pot up. But my favorite method of choosing plant positions is to scatter seed in the tufa garden and scree. Seeds are scattered and left to mother nature to plant and care for. I am the wind and she seems to know when and what to do next. Seed scattering does have its drawbacks if you want to call them that. I don't. The seed can't be labeled so the following fall or spring when some of the little rascals germinate, I walk around scratching my head and wondering *what* the seedlings are. Then I spend hours and hours with my plant books to try to solve the delightful mysteries. What confounds the mystery is that I try to get seed that is not common, seed that is hard to grow, seed of plants that are unknown to me, seed that I have never tried to grow before.

I find that growing plants by scattering seed is a challenge and that makes gardening more rewarding. I get germination of seed that I have never been able to grow before. It can also be risky because some seed will germinate too well and will have to be dealt with ruthlessly.

Try the challenge of seed scattering. Maybe, if you are lucky, some of the seeds you have put in pots with labels will also germinate and make identification of the garden seedlings simpler. Happy mysteries!

## A Field Trip to Mt. Dobson

Brenda Snadon  
Timaru, New Zealand

We left Timaru at 9 a.m. on a cool overcast Sunday morning travelling up through Pleasant Point and Fairlie to the gates of Mt. Dobson skifield where we met other members of the South Canterbury Alpine Garden Society. The skies had cleared and the hot sun shone down on us as we drove 15km (7 miles) up the sometimes steep grades to the summit. The 1700m (5500-foot) high skifield has a 3km-wide basin and is the sunniest skifield in New Zealand.

After parking our cars in New Zealand's highest car park, we quickly gathered our trowels, knives, packets, and pens and made our way to the patches of alpine. Even the unfit would find the collecting easy going. Crossing a little wooden bridge over a small gully and proceeding uphill we found large patches of *Celmisia angustifolia*, *Raoulia grandiflora*, *C. viscosa*, *C. sessiliflora*, *Leucogenes grandiceps* (South Island edelweiss) all growing side by side and covered in nice dry seed heads. After filling our seed packets we made our way up the small mountain stream where we found *C. alpina*

(bog daisy), *R. tenuicaulis*, and *Drapetes lyallii* while the big grey grasshoppers jumped happily around us.

Looking at our watches, we decided to go back for lunch. As we made our way down the gentle slope the mist descended upon us, soon blocking out the view of the surrounding hills. By the time we had eaten and had a chat the fog had cleared and the sun once more beamed upon us.

Moving downward this time, we discovered the dainty pink flower of *Lobelia linniioides* peeping up through the tussocky grasses. A small group of white *Wahlenbergia albomarginata* was the next find. Clumps of *Gentiana corymbifera* beckoned to us; their seed heads were not ripened but since have dried off successfully. A small patch of *Senecio scorzonerooides*, and *Aciphylla horrida*, a rather attractive foliage plant but so sharp and spiky, also grew there.

After afternoon tea we discussed our finds and named our plants. At 4 p.m. we left to descend to civilization, leaving behind a party of English botanists who were camping on the mountain for the night. At 4:23 we stopped to look for more plants and found *C. spectabilis* growing abundantly on the higher side of the road. Growing happily in amongst *Gaultheria depressa* var. *novaezealandiae* (creeping snowberry) and *Cotula squalida* was the lovely blue *Wahlenbergia albomarginata*. A prickly *Dracophyllum longifolium* grabbed our legs as we brushed past it. On the lower, damp side of the road we found big seed heads of *Celmisia coriacea*.

Half an hour later we started off again. The view as we descended was beautiful; the Opihi River meandered slowly seaward while geese, cows, and birds relaxed in paddocks. We passed native hebes, a bright pink yarrow, not-so-interesting plants of Scots thistle, blackberry, and broom.

We said goodbye to the cheeking magpie which had greeted us at the toll box in the morning and crossed the little bridge onto the main highway. As we sped home to Timaru, I realized we were going into autumn and soon winter would be upon us, the mountains covered with snow. The tourists and skiers would visit the skifield and would not know what beautiful New Zealand native plants lay buried beneath them. Where do the grey hoppers go in winter?

I had enjoyed my day and would return in 3 weeks' time with the Aorangi Rock Garden group to collect more seed to send to various seed exchanges.

## Book Review

**The Cultivated Hemlocks** by John C. Swartley. 1984. Timber Press, Beaverton, Oregon. \$24.95.

This unique volume from Timber Press, currently one of America's outstanding publishers of horticultural books, is the first and only book devoted exclusively to hemlocks (*Tsuga*). With deliberate intent, it is a monograph



done with great thoroughness resulting from a lifetime of study by Dr. Swartley. Although hemlocks have been widely grown as landscape plants for more than 200 years in Europe, Japan, China, and America, they have not previously received the intensity and detail of treatment as they have in this book.

Swartley has assembled the botanical and horticultural history from many past authors plus his own slides. Included are dendrology, silviculture, cultural methods, and propagation with recent advances in the use of tissue culture. Pests and many other topics pertinent to hemlocks are also covered.

Much space is given to all the known cultivars. There are 289 cultivars delineated, some in great depth. For example, two pages are given to the confusing Sargent hemlock group which is now considered to contain four identifiable cultivars. A section is devoted to listing cultivars into very useful named groups according to growth habit. When a plant of a particular growth form is desired, it is important to know that when one cultivar of a certain form is unavailable, there are others that will serve the desired purpose.

A weakness in the book is the absence of an index, particularly for technical details. Fortunately most of the cultivar names occur in only six of the seventeen species described and the greatest majority of these occur in *T. canadensis*, the Canadian hemlock. Still, to locate a cultivar name could require examining all the six species with cultivar listings. There would have been further enhancement by the inclusion of range maps to show the natural distribution of all the hemlock species.

The bibliography contains 118 references consulted or cited throughout the text. Illustrations in the form of photographs and line drawings are plentiful and add tremendously to the ease of identifying the particularly numerous dwarf cultivars. The volume is in large format, 11¾-by-9 inches, with large print on heavy paper. There are 186 pages.

Most interesting is the origin and development of this book. It began as a Master's dissertation prepared by the author more than 40 years ago with a supplement in 1945. Lacking the means of publication, the author permitted the use of his manuscript by other conifer specialists to verify the accuracy of their work. This attests to the need of such a work and to Dr. Swartley's veracity. Of note are the *Tsuga* sections in *Manual of Cultivated Conifers*, P. Den Ouden and B. K. Boom, and *Manual of Dwarf Conifers*, Humphrey Welch.

Although the original manuscript to *The Cultivated Hemlocks* is of some age, the text was brought up to date for publication by the author with the assistance of Humphrey Welch, author and conifer authority, and Dr. Theodore R. Dudley, an authority on plant taxonomy and nomenclature. The nomenclature has been carefully reworked to make it the most recent available in print that is applicable to *Tsuga*. In fact, seventy-two new cultivars are named and described for the first time. Great credit is due Welch, Dudley, and publisher Richard Abel who overcame many obstacles to bring this volume into print. Without their cooperative effort, because of the failing health of the author, publication would not likely have occurred.

This book is and will remain a classic on its subject. Anyone who works with conifers, particularly landscape architects, nurserymen, and gardeners, will ultimately find this reference a necessity.

— Gene Eisenbeiss

## Omnium-Gatherum

**Features to be** Now that summer has been swallowed by fall, for some of us even before it had a fair chance to start, there is perhaps more reflecting time. May I nudge your reflections in the direction of the *Bulletin*? Now's your chance. Ideas are being entertained for a variety of new features to appear from time to time. Some of those already percolating concern features on plants new to cultivation — worthy plants that should be grown more widely — a mystery section devoted to trying to explain or at least share information about bizarre plant behavior — a running box score of ever-changing plant names — expressions of the joy of being with plants in a garden or out among 'em on their own turf, so to speak (I have been told that I may not accept poetry, so you will need to confine your lyricism to prose) — good questions, sometimes that's a start toward finding good answers — things done before that were good ideas and worth reinstating. We need more ideas for features, snappy names for features, and of course written contributions to make the whole thing work. It will do us no good to have a lot of titles lurking about empty.

**Features that are** The Want Ads have begun and already received some response. They appear in the *Bulletin Board* and are \$1.00 for each 25 words exclusive of name and address. Ads should be sent to Anita Kistler. Rule of thumb: if you find yourself at the day when one season changes to another, you are about to be late for the next *Bulletin Board's* Want Ad deadline. A contribution to the Fragment Department (see Winter Omnium-Gatherum) appears in this issue. Also in this issue is the official beginning of a more ambitious feature, "European Notebook," the idea of Paul Halladin now of Geneva, Switzerland. Paul proposes that the column direct itself, with his on-the-spot aid toward helping ARGS members accumulate information on places to visit, on what to see, on people to contact in Europe, and on information about European rock garden groups, all in the context of alpinism. His article on *Primula allionii* in the last issue was a good start toward giving us intriguing places to visit as well as giving us an unanswered question: Where IS *Primula allionii* growing in the wild?

**Reprints** What do you think about them? Should the *Bulletin* use some? many? none? Should we reprint from Chapter newsletters? other rock garden publications? Whole major high quality articles? excerpts? fillers?

**Correspondence** I'm getting caught up except for that unfortunate, and I might add quite illustrious, group I haven't been able to reach no matter which course I've tried. I'm coming. I'm coming.





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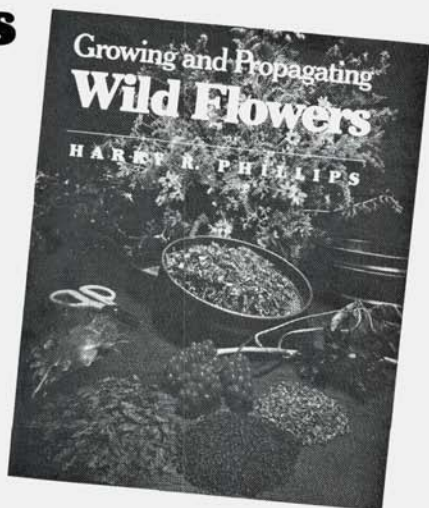
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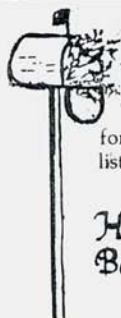
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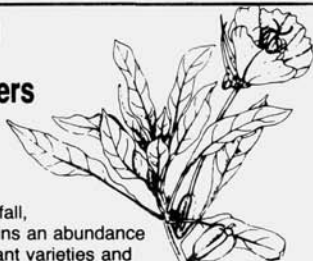
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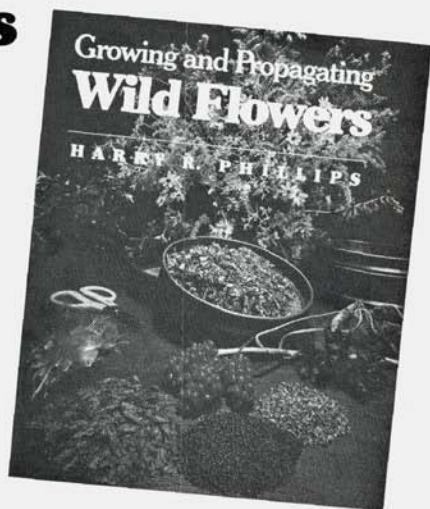
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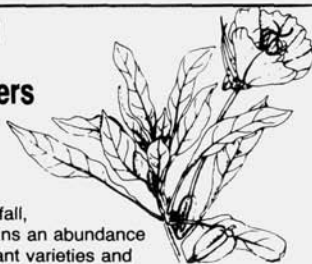
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