

# BULLETIN

of the

## AMERICAN

### ROCK GARDEN SOCIETY

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Vol. 23

October, 1965

No. 4

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OUR INSECTIVOROUS PLANTS— <i>T. S. Shinn</i> .....	109
AWARDS FOR FIVE ROCK GARDENERS .....	113
WHIPPOORWILL FLOWERS— <i>Leonard J. Uttal</i> .....	117
CORYDALIS— <i>Robert M. Senior</i> .....	118
NOTES FROM H. L. F. ....	119
DAPHNES— <i>B. O. Mulligan</i> .....	121
INTERCHANGE .....	124
BOOK REVIEWS .....	125
A WESTERN GARDEN IN MISSOULA—Part II	
<i>Klaus H. Lackschewitz</i> .....	127
NOTES FROM THE NORTHWEST— <i>Sallie D. Allen</i> .....	133
THE BIRDSFOOT VIOLET— <i>Burr Bronson</i> .....	135
WELCOME! NEW MEMBERS .....	137
TREASURER'S REPORT— <i>Alex D. Reid</i> .....	138
OMNIUM-GATHERUM .....	139





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Albert M. Sutton, Editor

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### OUR INSECTIVOROUS PLANTS

T. S. SHINN, *Asheville, N. C.*

There have been many weird stories told of plants which entrap their food, so weird even as to claim that some of these plants are dangerous to man. These are based on facts, but in some cases the facts have been stretched in order to make the stories more readable and exciting. It is perfectly true that some plants do entrap live food. It is also true that some plants are covered with a sticky substance on which insects are trapped, but are not used for food. The common name for the genus *Silene* is Catch-fly. We also have a Clammy Azalea, *Azalea viscosa* and a Clammy Locust, *Robinia viscosa*. Neither of these are classified as being insectivorous.

Those plants which do utilize captured insects, in very much the same way as we digest our food, are found in separate genera in unrelated parts of the Plant Kingdom. Some are aquatic; some are terrestrial; and some, particularly in the tropics, are epiphytic. Each of these plants has developed a specialized member, usually a leaf, which is constructed in such a manner that it can procure food for the plant. This provision insures a supply of nitrogen in locations where there is very little of that element available from the soil or other surrounding media. Of course there must be some way for the food to be utilized. This is done by absorption of nitrogenous materials rendered usable through disintegration, or by the action of fluids similar to those produced in our own stomachs.

The southeastern section of the United States has a number of these meat-eaters. Most of the terrestrial ones are comparatively easy to transplant if given a new home similar to that of their own selection. All of the species enumerated here have been thriving in our own mountain bog for several years in spite of winter temperatures as low as zero degrees Fahrenheit. They provide greater interest the whole year through than perhaps any others of our native plants. Take a few plants from their native haunts, with permission of course, and transplant them to a peaty, sandy sphagnum bog—either natural or of your own creation. You will feel well rewarded when you see the little seedlings come up in the live sphagnum from the natural scattering of seed. Then, should you drive back to their home base and find the bog has been drained or bulldozed, you may well have the good feeling of having possibly saved these plants from extinction.

The aquatic species of most interest is the Bladderwort, of the genus *Utricularia*. It has somewhat the appearance of a wheel of many spokes, with a

smaller wheel on the end of each spoke, floating on top of the water. When I see one of these odd plants I am reminded of the "wheel in a wheel" seen by Ezekiel. In this case the wheel is on the surface of the water and not "up in the middle of the air." All of its parts are very fragile so the plant is necessarily confined to quiet, almost stagnant, water. At blooming time a leafless stem arises from the center of the large wheel to about six inches above the surface of the water, bearing one or more bright yellow blossoms. The food business is carried on under the surface. Small sacs equipped with trap doors, attached to the root system, allow minute particles of aquatic life to enter, only to find that there is no exit.

Terrestrial plants with similar appetites can be further classified as to whether they merely make it possible for the insects to entrap themselves, or whether they make some effort to aid this proceeding. In the Carolinas the most active and the most fabulous one is *Dionaea muscipula*, better known as Venus's flytrap. The leaves, which are attached to fleshy petioles, are sometimes more than an inch long and almost as broad, and resemble an open book with red pages which have incurred bristles along the two edges. Sensitive hairs near the hinged middle act as triggers. When these hairs are disturbed, the book closes in less than a second. The victim, which may be as large as a small grasshopper, is held securely until the digestive process has taken place. If the trap is sprung by a blade of grass or an insect large enough to make its escape, the leaf reopens after a short interval and is ready for the next intruder. A leafless stem about six or eight inches tall produces a cluster of white blooms in early summer. The small black seed which follow are readily germinated in moist peat. The seedlings are rather difficult to handle unless transplanting is done at an early age into a mixture of sand and peat, moist but well drained, and in full sun. If conditions are favorable, the plants should bloom about the third or fourth year.

Next, in order of decreased activity, comes the genus *Drosera*—the Sun-dews. We have several species of this genus. They are somewhat different in form, but all operate on the same principle. The leaf coloring is a mixture of some green, but mostly red, and both the leaf and the petiole are covered with short hairs. Each of these hairs is tipped with a tiny globule of mucilage. The common name comes from the reflection of sunlight by these small crystal spheres, which gives the plant the appearance of being covered with a multitude of scintillating jewels. When an insect—possibly an ant—contacts the sticky hairs, he finds himself in trouble. His struggles seem to excite the surrounding hairs so that they bend over to lend aid in holding the morsel of food until the digestive juices transmitted by these same hairs can do their work. The blossoms are formed at the top of a leafless scape in a rather loose raceme. The color is usually pink or white, depending on the species.

*Drosera brevifolia* is a very small plant. Its round leaves spread out on the surface of the ground in a rosette which is usually hardly more than an inch in diameter. The leaves are attached to very short petioles. Seedlings are produced freely, so freely in fact, that where they have not been disturbed the ground has the appearance of being covered with a red carpet.

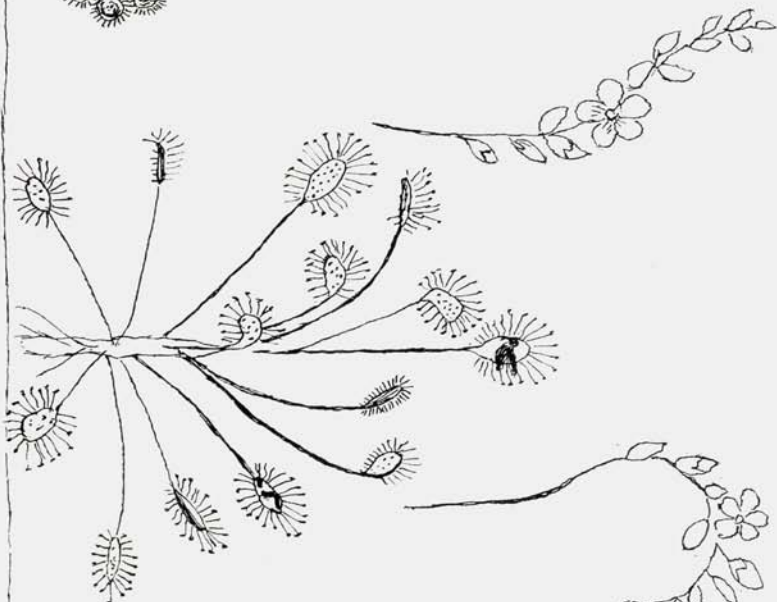
*Drosera capillaris* is similar, except that the leaves are longer and are more oblong than round. *Drosera intermedia* has spatula-shaped leaves. The petioles in both of these species are longer than those of *Drosera brevifolia* and do not lie so flat on the surface of the ground. The shape of each of these plants is more hemispherical, so that both crawling and flying insects may be caught.

*Drosera filiformis* is one that can deceive the admirer as well as the insect, unless, of course, one knows what to look for. The leaves are narrow and grass-like, but they have the same kind of sticky hairs all along their six or eight

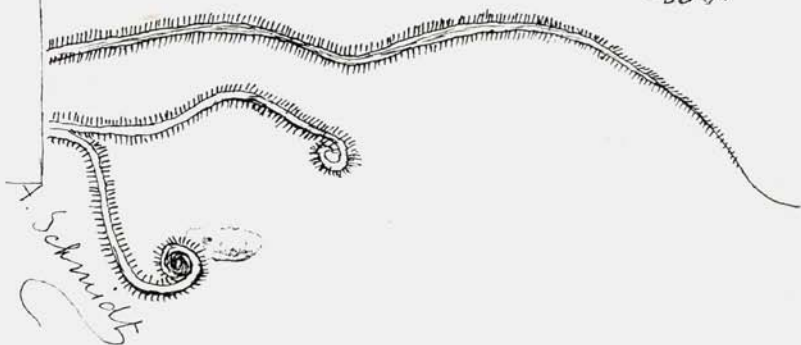
Drosera  
brevijolia



Drosera  
capillaris



Drosera  
filiformis



A. Schmidt



inches of mature length. They are certainly not grass-like in one respect. Instead of growing straight up from the root as grasses do, they unroll in the same fashion as do the fiddle-heads of many ferns.

The genus *Pinguicula* is still less active. The pale green leaves with up-curved edges form a beautiful rosette close to the ground. The surface of each leaf is covered with a clammy, viscous substance which, while it does not actually entrap the small insect which happens to try to crawl across it, does make movement difficult, if not impossible. It is probable that the leaves may curl a little more when excited by the promise of a meal, but the movement, if any, is very slight. Such movement, however, is hardly necessary because the leaf coating is well qualified for its purpose of impeding progress. The single, spurred blossom is produced on a leafless stem. Corollas are blue in some species, yellow in others.

The passive plants form our largest group. These are the Pitcher Plants, the *Sarracenias*. These are mere pitfalls formed by funnel-shaped leaves, usually containing a mixture of rain water and the necessary digestive fluids. The upper portion of the pitcher is lined with stiff downward-pointing hairs which make descent easy, but escape almost impossible. The blossom formation is similar in all species. The color of the petals is dark red, except in two instances as will be pointed out. They all have the peculiar fiddle-shaped, drooping petals which fall after a short blooming season. They also have an oddly shaped style which resembles an inverted umbrella. This style remains until after the seed have developed. One photograph cannot give a true picture of any of these plants because the new leaves, from which they receive their common name, are not fully developed until after the petals have fallen.

*Sarracenia purpurea* is probably the most widespread species and is one which can be most easily observed and studied since the funnels are comparatively large in diameter, are spread out rather close to the ground, and are open at the top.

*Sarracenia flava* has long, greenish-yellow, tapering, trumpet-shaped leaves which rise to a height of twenty-four to thirty inches and have a diameter of two inches or more at the top. A hood in the form of a flap extends over the top of the tube, leaving plenty of space between hood and tube through which insects can gain entrance. This species has yellow petals, thus the common name of Yellow Trumpets.

Between these two extremes of height there are a number of other species, as well as a great variety of natural hybrids. In *Sarracenia psittacina*, the Parrot Pitcher Plant, the leaves are smaller than those of *S. purpurea* and the tips are incurved in the form of a beak over the opening at the top. *Sarracenia jonesii* has rather slender leaves about ten to fifteen inches tall, hooded, with a comparatively small access opening. Very similar to *S. jonesii* is *S. rubra*. The flowers are so fragrant that it is called the Sweet Pitcher Plant. *Sarracenia minor* is similarly hooded, but it has the added attraction of small translucent windows on the back of the leaf just below the hood. This feature is, presumably, to fool the insect into thinking that there is a back door, so to speak, to the green cavern which he is about to enter. This is the other member of the genus which has yellow petals, but they are smaller than those of *S. flava*. *Sarracenia drummondii* has leaves about fifteen inches tall. The upper part of the leaf or trumpet, as well as the hood, is white. The reddish veins stand out prominently against this light background, making this an outstanding plant.

The insectivorous plants form a most interesting and fascinating group. The various species of the several genera have adapted themselves to life in bogs where there is little or no nitrogen remaining in the soil; and, instead of giving

up in the face of what seemed an impossible situation, they have developed specialized members to provide that necessary portion of their diet. Mankind might well take a lesson from them.

## AWARDS FOR FIVE ROCK GARDENERS

Five American Rock Garden Society Awards were presented at the 31st annual meeting of the ARGs held in Sudbury, Mass. over the weekend of May 15 and 16. These Citations, the first to be given by the Society, were for "outstanding contributions to rock and alpine gardening and to the particular study of our native plants." The Awards were presented to Dr. Edgar T. Wherry of the University of Pennsylvania, Mr. G. G. Nearing of Ramsey, N. J., Mrs. A. C. U. Berry of Portland, Oregon, Mr. Claude A. Barr of Smithwick, South Dakota, and Mr. Will C. Curtis of South Sudbury, Mass.

The presentation took place at the annual banquet on Saturday evening before an assemblage of approximately 90 members who had gathered from all parts of the United States to attend the meeting. The Citations were made by Mr. Harold Epstein of New York City, President Emeritus of the ARGs.

Dr. Carl R. Worth of Ithaca College, Ithaca, N. Y. gave the main address, describing and showing slides of his explorations for plants in the mountains of the American West.

In his opening speech, Mr. H. Lincoln Foster, President of the Society, mentioned the growing interest in rock gardening which is reflected in the growth in membership. The Society now has over 1000 members, he said, from 45 states and 17 foreign countries.

In addition to attending the banquet, those present spent the two days of the meeting visiting places of horticultural and historical interest and gardens of members in the vicinity.

The New England Region of the ARGs acted as host for the occasion under the direction of Mr. Burr Bronson of Watertown, Mass. Members who opened their gardens were Mrs. Ronald S. Gray of North Reading, Mrs. Irving Fraim of Waltham, Mr. and Mrs. Bronson, Mr. and Mrs. E. W. Fenn of Concord, Miss Margery Webster of Concord, the Misses Katherine and Georgette Faxon of Concord, the Alexander Irving Heimlich Nursery of Rock Plants, Alpines and Bulbs in Woburn, the Famosi Garden and Nursery in Westford, and the garden of Mr. and Mrs. Robert L. Henderson in Brookline. In addition, Mr. Bronson had made arrangements so the members of the group who were interested in rhododendrons could visit the garden of Prof. Pitirim Sorokin in Winchester. Special guides were available for those who wished to visit the Arnold Arboretum.

Three of the honored members were present when Mr. Epstein made the presentations; two, Mrs. Berry and Mr. Nearing, were unfortunately unable to attend. The presentation speeches read as follows:

Guy G. Nearing is a man of diverse talents, each mastered to a high degree of perfection. Foremost is his dedication to horticultural interests in varying directions. This includes lichens, rhododendrons, and propagation, and the vast subject of plants in the catch-all of rock gardening. On each of these he has written and published many papers and lectured tirelessly. His horticultural dedication dates back over thirty-five years to his work at Guyencourt in Delaware. Here he conceived and perfected his special frames and methods for propagating rhododendron cuttings outdoors without heat. This was then an entirely unexplored field in plant propagation and it was intended as a replace-



ment of the unsatisfactory procedure of grafting so many garden subjects. His proven process was fully disclosed and shared with the public and first published by the United States Department of Agriculture.

It is impractical to elaborate at this time upon the unusually high standards that he has set in his breeding of rhododendrons. He has spent years in seeking and growing numerous rhododendron species and then using selected clones in his breeding program with severest selection for beauty and hardiness. Under these conditions his introductions have not been numerous, but those released to the public will be a permanent contribution to select plant lists: Windbeam, Ramapo, Purple Gem, and the Guyencourt hybrids. The work of this breeder continues with ambitious objectives.

He has contributed generously of his time to the ARGS and its members, writing, lecturing, and serving as Editor of its *Bulletin* for the period January, 1951 through July, 1954. He has been a tireless worker, always ready to disseminate knowledge on his favorite subjects. As a dedicated scholar he has been an inspiration to many who have gained from his friendship and kindness.

It would be remiss not to disclose his major secondary interest during the past score of years—his devotion to folk dancing. It is inconceivable that after a full day of vigorous activity in his nursery he has had the enthusiasm, interest, and above all, the physical endurance to actively participate a few evenings each week in such a strenuous hobby.

Mr. Will C. Curtis has been our host today at his superb Garden in the Woods, and we are happy that today we bring this recognition and award to his door-step, or garden-step, rather than trouble him to travel to New York to receive it. The fact that you have all had the privilege of personally visiting and enjoying the fabulous Garden in the Woods, will save innumerable words of description of this unusual oasis of wildlife.

Its conception and creation was the work of Will Curtis—a gardener since his birth. This early devotion to the soil and to nature was early developed by a grandfather who was a farmer and a mother who was a keen gardener and naturalist. Consequently, at the age of ten, he had already created his own garden of native plants under a pear tree at his home in Saratoga, New York. The occupants of this first garden had all been collected by him in the mountains, woods, and glens in the vicinity. This early experience was the forerunner and inspiration for the dream of an immense naturalistic wild garden which culminated in the creation of the Garden in the Woods. The 30 acres were purchased in 1931 and the development of the wild flower garden was started immediately. A year later, Howard O. "Dick" Stiles became his partner, so the project now represents the concentrated efforts of two keen horticulturalists for over 30 years.

Because of the varied physical conditions of the terrain, many specialized gardens were developed. There are areas devoted to plants of bogs, dry woodlands, pine barrens, New England, the American West, sunny, shady, and a variety of rock gardens. The native American plants include many rarities—albinos and doubles, sports and breaks, a total to challenge any botanical garden. In addition there are a vast number of exotic plants from many areas and continents.

A garden as extensive as this is a perfect vehicle for nature study, education, and conservation programs. And for years, groups of all ages have been welcome to use it as a school and laboratory. It has also disseminated seeds and plants, particularly of American natives, to botanic gardens nurseries and other keen horticulturists.



Until mid-1964, the Garden in the Woods was the private property of Mr. Curtis and Mr. Stiles. Its status then changed when the two partners arranged with the New England Wild Flower Preservation Society to take over the Garden in the Woods provided an endowment could be raised to maintain it properly. This arrangement would make it possible to widen the scope of the garden's usefulness, and most important, to save it for future generations. This was achieved this year.

Mr. Curtis and Mr. Stiles will remain at their garden and continue to enrich the lives of the many visitors to this unique garden—the fulfillment of a great dream. The ARGS Citation is presented to you, Mr. Curtis, for your superb contributions to American horticulture.

Claude Arno Barr has been a one-man team furthering the horticultural use of the native plants of the High Plains, Bad Lands and Black Hills area of this country.

He was born in Arkansas in 1887, attended high school in St. Louis, Mo., and is a graduate of Drake University at Des Moines, Iowa. In 1910, while still attending college, he filed a homestead claim in Fall River County, South Dakota. Many of the early homesteaders were discouraged by the gumbo soil and the alkali water and abandoned their land, but Claude Barr stayed, and early in the development of his Prairie Gem Ranch, he began bringing in *Ponderosa* pine from the Black Hills.

In the shade of the first pines, he planted native Phlox and the Pasque Flower. A picture he took of the latter in bloom was sold to a magazine and the sale encouraged Barr in his hobby of plains floriculture. Many articles followed, and he started a wild flower nursery. Since 1932, when he published his first catalogue of wild flowers, Barr has introduced more than 80 species of wild and developed plants to the gardeners of America. A number of botanists and wild flower authorities have studied at Prairie Gem Ranch.

Claude Barr has no formal training in botany, but his knowledge of plains plants is all-encompassing. In the course of his study, he was so deeply impressed by Gabrielson's *Western American Alpines*, that he decided to write a book about the flora of the plains as a counterpart. In this he was encouraged by Ira Gabrielson. *Jewels of the Plains* is now in preparation, and Mr. Barr is confident of its completion. "Others have published at the age of 88, and I am a mere 78" he says.

To have achieved world-wide acquaintance with scientists, and national recognition from a prairie homestead and a one-acre wild flower nursery on gumbo soil, is sufficient proof that Claude Barr has made the best of his opportunities to the enrichment of all our gardens, and is a worthy recipient of the ARGS Citation.

In accepting the honor, Mr. Barr credited several people for inspiring and encouraging him in his work, among them the late Mrs. Florens DeBevoise of Greens Farms, Conn., a keen plantswoman and one of the founders of the American Rock Garden Society; Dr. Gabrielson, and B. Y. Morrison.

Mrs. Alfred C. U. Berry of Portland, Oregon, is a horticulturist with insatiable curiosity concerning plants of mountains, plains, bogs, prairies and wherever they choose to make their home. This keen interest commenced in her girlhood and has persisted untiringly. She has climbed mountains and trekked through remote ravines to secure rare and challenging plants for her personal experimenting and also to furnish them to scientists and botanic gardens. Her success in taming the most difficult and stubborn alpine has brought her recog-



Mrs. A. C. U. Berry and bed of *Lewisia* hybrids flowering in her garden, Portland, Oregon May 8, 1965.

B. O. Mulligan

niton and fame amongst botanists and keen horticulturists throughout the world. She has cooperated with and financially assisted nearly all hardy plant exploration projects for many years. Her generosity is well known to many nurserymen, hobbyists, and institutions who have benefited from her graciousness and sharing. The scope of her interests is very wide, but she is most renowned for her concentration on the primula and rhododendron genera.

She is the first woman to have been presented with the Gold Medal of the American Rhododendron Society. In 1964 the Florens DeBevoise Memorial Award was given her by the Garden Club of America. It is therefore a great privilege to add to this recognition this Citation of the American Rock Garden Society—an award to one of the really great gardeners of the United States.

Dr. Edgar T. Wherry has been a keen student of plant ecology and the chemistry of soils since his college days. He received the degree of Bachelor of Science from the University of Pennsylvania in 1906 and his PhD from the same University. He was assistant curator for four years with the Department of Geology, U. S. National Museum. The next thirteen years he was with the Bureau of Chemistry, U. S. Department of Agriculture. In 1930 he joined the Department of Botany at the University of Pennsylvania from where he has retired as Professor Emeritus.

His interest in plant ecology and plant geography developed a keen interest in our native plants and he has made many collecting field trips throughout the country. He has lectured, written numerous papers and books on the chemistry



of soils, our native ferns, and on plants belonging to the Polemoniaceae (Phlox and Polemonium) and the Primulaceae (Dodecatheon).

He was the first editor of the *Bulletin* of the American Rock Garden Society and continued in that position for five years (1943 through 1947). He has always participated in the affairs of the Society and has been liberal in his assistance and advice to members seeking his help.

We are proud to have him associated with us for all these years and hope we will continue to have his help and cooperation for many more, and as a recognition of all his contributions to the members of the ARGS and to horticulturists throughout the land, we are pleased to present to him this American Rock Garden Society Citation.

In accepting the Award, Dr. Wherry likened the thrill to that of discovering and being able to introduce into horticulture the beautiful plant species: *Silene wherryi* and *Tiarella wherryi*.

## WHIPPOORWILL FLOWERS

LEONARD J. UTTAL, *Madison Heights, Va.*

Who has not stopped in his tracks on hearing the first whippoorwill of the spring? Ghostly, shy, rarely seen; yet he demands and gets your attention with his insistent, repetitive quaver.

Too bad we have lost touch with the folk lore in plants. There is a plant which blooms when the first whippoorwill calls. Shy, retiring, yet still capable of capturing your attention, it was called by the mountain people "whippoorwill-flower," or "toad-shade." Perhaps some still do, but you will never find them in a catalogue under those names.

Call them Trilliums, if you must; Latin, precise—and mundane, for trilliums they are. They are that group of trilliums called "Sessiles", not the big, mighty *grandiflorum*, which most often pops into mind with the word "trillium". They are the lesser, modest trilliums you may think about after you have obtained your *grandiflorum*, *erectum*, or *cernuum*.

The whippoorwill flowers are a group of wood-trilliums, characterized by a sessile, upright flower set on top of the parasol which is made by the erect petiole, and the three broadly rounded outspread leaves. A toad can find good shade under one of these parasols—hence the name "toad shade." Some species have beautifully mottled leaves. They are easy in the woodland section of the garden, forming small colonies, modest overall, but truly charming in their own special way.

Whippoorwill flowers are very variable, consequently their classification is hardly in agreement from one technical manual to another. So it seems best to describe them as they are most likely to be offered by dealers in native plants of the southern highlands. The names given by Ed Steffek in his article on trilliums in *Horticulture Magazine* for February, 1965, (p.30) will guide you well in the catalogues.

*Trillium viride* is a collective species, containing the forms most likely to be offered in the trade. The leaves are beautifully mottled in three shades of green: medium, light, and silver-gray. Plants offered under this name have flowers with greenish or green-purple strap-shaped petals. Plants offered as *T. hugeri* are likely to have brown-purple to maroon flowers, with a sweetish, yet slightly fetid scent. Most popular of this group is *T. luteum*. In this plant, the flowers become increasingly straw-yellow as the petals grow, then on reaching maximum size, in their decline they revert to a yellowish-green. They have a slightly lemony odor. Collectively, these plants are characteristic of the southern Appalachian region, with some forms found in the Ozarks, and others in the piedmont and southeastern coastal plain area adjacent to the mountains.

*Trillium sessile*, is a shorter, stouter, squattier plant, with very broad-round leaves, unmottled, with a flower with purple-brown petals, and one which suggests the peculiar sweet strawberry odor of the sweet shrub, *Calycanthus*, which has flowers of the same color. Found naturally from New York to Illinois, south to Georgia, Mississippi and Arkansas, it is the species to which the name "toad-shade" is most often applied.

*T. recurvatum*, native to Wisconsin and Michigan, and south to Arkansas, resembles *T. viride* in its mottled leaves, but its petals are claw-shaped, rather than strap-shaped.

Small lists several other names in his *Manual of the Southeastern Flora*, especially in the region where the mountains approach the coastal plain, in the Carolinas, Georgia, and Alabama. Most of these names are amalgamated by more recent authorities. It is suggested that there is perhaps considerable hybridization in this region, the heartland of the whippoorwill-flower, and therefore it is the most likely place to look for particularly choice selections in this group of trilliums.

## CORYDALIS

ROBERT M. SENIOR, *Cincinnati, Ohio*

Of all the members of the *Fumariaceae* or Fumitory family, there are but few plants seen with any frequency in our borders or in the wild garden. Among these are the Bleeding Heart (*Dicentra spectabilis*), Dutchman's Breeches (*Bicuculla Cucullaria*), and Squirrel Corn (*B. canadensis*). In this family, *Corydalis* is not often cultivated, despite the fact that there are some attractive species with delicate and graceful flowers. Many of them have beautiful pinnate and pinnatifid leaves that are almost fern-like in appearance. Several of them will thrive in a somewhat shady nook in the rock garden.

The chief characteristics of the flowers are as follows: all of them have four petals, in pairs, each with a spur at the base. The outer petals have spreading tips; the inner pair with narrower crested tips united over the stigma.

No doubt all of us have encountered some of the wild species growing in this country. *Corydalis sempervirens*, having a pale crimson-pink, slightly curved corolla with yellow tips, is widespread, particularly in New England. *C. aurea*, with golden-yellow flowers about one half inch long, is also found in many states. Both of these plants are annuals or biennials, and probably have a place only in the wild garden.

The finely dissected leaves of the perennials are one of their main attractions. When this quality is combined with fair sized, attractive flowers, they become desirable additions to our rock garden. At different times we have grown a number of species that pleased us.

A plant that is commonly found in many parts of Europe is *C. lutea*. It is a spreading species that is easy to grow and looks attractive in a wall crevice where there is possibly some shade. The flowers are yellow, about a half inch long and grow in short racemes. It has a long period of bloom.

About ten years ago we bought a few bulbs of a plant called *Corydalis bulbosa*, which I understand is now called *C. solida*. Our plant blooms in April and is about six inches high, with masses of delicate rosy-purple flowers, and finely cut leaves whose segments are wedge shaped. We have never disturbed the plant, and no doubt the bulbs have increased, so that today it has spread to almost a foot in diameter. After about two weeks of bloom the foliage withers and the plant dies down until the following spring. Strange to say, neither the original description of the species, nor the description of it in Curtis Botanical Magazine, with an accompanying picture, mentions that the plant disappears



after blooming. Possibly one of our members can throw some light on the subject.

*Corydalis cheilanthifolia*, placed in a semi-shaded place, is about eight inches high and forms a good-sized clump of attractive, finely-cut foliage that turns russet-green in the fall. The flowers are yellow. We had this plant for many years, and it presented no cultural difficulty.

*Corydalis nobilis*, sometimes called the Siberian corydalis, is another good plant for a shady place in the rock garden. It is almost twelve inches high with finely-divided, glaucous foliage and wedge-shaped segments. The flowers are pale yellow, tipped green and capitate. In Bailey's *Cyclopedia of Horticulture* there is a picture of the plant.

Of all this genus that we have raised, our favorite is *Corydalis wilsonii*. The semi-decumbent leaves, almost steel gray in color, are about five inches long. When the rich canary-yellow flowers rise slightly above the foliage they form a pleasing contrast.

In English magazines, probably the most discussed *Corydalis* is *C. cashmeriana*, which incidentally received an "Award of Merit" from the Royal Horticultural Society. Here in southwestern Ohio, with our fairly hot summers and variable winter weather, this plant would probably be impossible to raise. It is a plant that is found in the mountains of Kashmir and Sikkim at an elevation of about eleven thousand feet. In Blatter's *Beautiful Flowers of Kashmir* there is a colored picture of this plant. Evidently the flowers are of an intense blue. One Englishman terms it "a glorious plant." Possibly some member of our Society who is also a member of the Alpine Garden Society may recently have secured seeds from their seed list. Some member living in the Pacific Northwest, where the climatic conditions are not too unfavorable, might be able to raise it. This plant, which forms tubers, is about six inches high, and judging from reports of its culture, it requires a spongy soil and some grit around the crown, shade from the hottest sun, and a glass cover in winter. Altogether, it would be a challenge to a skilled horticulturist.

The English *Dictionary of Gardening* mentions three other plants of merit—*C. cava*, about six inches high, with purple flowers, *C. tomentosa*, also about six inches high, with yellow flowers, and *C. verticillaris*, two to six inches high, with pale pink flowers. These plants we have never raised.

## NOTES FROM H. L. F.

It is difficult to surmise just what the American Rock Garden Society means to each of the one thousand plus members. For some, I am sure, the Seed Exchange is of primary importance, and the annual distribution is the highlight of the year, worth every penny of the annual subscription. For others, doubtless, the group meetings are of primary importance. Amid their fellow rock gardeners they share experiences and derive inspiration. For those remote from organized groups there is the exchange of letters that keeps the gardening spirit alive, especially during the months of winter.

For all members, whether they are the solitary representative in the state of Idaho or Georgia, or one of the 182 members in New York State—whether their native tongue is English or Spanish or German or Japanese—it is the *Bulletin*, I am sure, that is the most immediate and important contribution of the Society.

It is worthwhile to think a bit about the role of the *Bulletin*. I am confident that the Editor will permit me to consider with you the complex nature of the publication, and to ask for your advice and assistance in its production.

Of paramount importance is the realization that the *Bulletin* contains material written *by* members *for* members. The Editor has the final say about which submitted material is used and how it is featured. He may have to write a good deal of it himself, to fill the space and meet the deadline. The *Bulletin*, quite properly should reflect the Editor, the flavor and character of the man. But, members should be assured that generally all articles are published very much as they are submitted. This is what gives to the *Bulletin* its variety of styles and interests to meet the variety of our membership.

Because our membership is varied, composed of those who are just beginning the adventure of rock gardening, and also those who have become expert enough to be specialists, the *Bulletin* Editor is faced with a problem of trying to present a magazine of value for all. This he could manage if he could contract for particular articles. But he must, as things are, just wait for some member to feel inspired to write something and send it in. I am sure there are many articles composed in the minds of our rock gardeners as they walk about the garden, as they transplant seedlings, as they are on their knees weeding, or as they chat with a fellow gardener.

For example, just the other day a visitor here spotted in the nursery a flourishing, flowering plant of *Matthiola scapifera*. His excitement at seeing this unusual high Atlas Mountain stock thriving in Connecticut gave me a totally new interest in the plant. It had arrived as a seedling from a friend under the name *Mathiola scapigera*, and was so labeled when put in the nursery bed for trial before admission to the garden. I did not look it up in the literature then, nor later when it began to flower in midsummer and on into fall—large lavender-blue crucifers in dense heads rising on foot-high stems about stout, crinkly, gray foliage. This year it has begun in early May its sheaf of scentless blossoms (faintly but sweetly scented at night as I just discovered by halting my sentence and going to sniff). My visitor's excitement spurred me to refer to my books. There it is in Sampson Clay's *The Present Day Rock Garden*, a picture of a dwarfed specimen growing in a hard rock crevice in the Atlas Mountains, *Matthiola scapifera*. I changed my label, and thought that here was material for a short article for the *Bulletin*.

But, like other members, I am sure, I put off writing down the basic information for the article. The information is there in Sampson Clay, I said to myself. Why bother? Yet an article on *Matthiola*, or *Kernera*, or *Sisyrinchium*, or *Elmera* has not appeared, as far as I can discover, in the *Bulletin*. There is a vast store of experience and knowledge locked in the minds and eyes and fingers of our members. How can we unlock this store? It has been suggested that potential authors, like potential philanthropists, need personal solicitation.

Our Editor is very busy with the technical problems of turning out the finished copy of our *Bulletin* four times a year. Just think what is involved: collecting, reading, editing, retyping, collating, sifting, mailing, proofreading, cutting, pasting, etc., etc. There is very little time for soliciting articles, even if our overworked Editor could possibly know which members had potential articles locked up in their heads. Therefore, we must rely on the general good will and conscience of the members, or we must help the Editor to discover, solicit, and pressure our potential authors.

I am told that in the past an effort was made to have regional assistants or associate editors who were to help with soliciting and collecting written material. The experiment did not work. But I am not disposed to think that because the scheme did not work before, it will not work now. In fact, I feel confident that there is a whole new spirit fermenting in the ARGS. There is certainly a greater activity in the Regional Units and the Sections within the Units. There is a new



sophistication about all aspects of growing rock garden plants and about the plants themselves. We are perhaps at the interesting stage of development when our earlier naivete, which permitted and invited hasty enthusiasms, is now tempered by a halting wisdom. Yet we must dare. What a challenge is here!

My plan is to ask each Regional Chairman to appoint a Bulletin assistant or associate. Let each member be prepared to respond with items, notes, articles, arguments, reminiscences when the call comes from your regional solicitor. Better still, send right now, directly to the Editor, or to your Regional Unit chairman those articles you have simmering. Turn up the heat a little. Start cooking. Let's give the Editor a larder so full that every issue will become, under his chef's hand, a gourmet's delight.

## DAPHNES\*

B. O. MULLIGAN, *Seattle, Wash.*

I think you will all agree that the genus *Daphne* is one of the most ornamental groups of small shrubs for rock gardens. *Daphne* really is a very choice race of shrubs, for I can't, myself, imagine any other group that gives so much; such a variety in size of plants, color, and fragrance, and hardness in most cases. The genus is quite widespread over Europe and Asia, but does not get on to the American continent at all; the nearest to it is in northeastern Asia, in Kamchatka. Apparently they did not cross the Aleutians, at any rate not in recent times.

The name *Daphne* was given by Linnaeus in 1753, when he recognized seven different species, which were *D.D. mezereum*, *alpina*, *laureola*, *pontica* (closely related to *D. laureola*), *indica* (now referred to the genus *Wikstroemia*), *cneorum*, and *gnidium* (from southern Europe). All are European except *D. pontica*, which is native around the Black Sea, and *D. indica*, from E. China. Of recent works, in Rehder's *Manual of Cultivated Trees and Shrubs* (1940) twenty-five species and three hybrids were described, and he states that there are fifty known species. In Krusmann's work of 1960\*\*, a German publication, the most recent on trees and shrubs that we have, twenty years later than Rehder, he describes thirty species and six hybrids, so has a wider selection in both; he also illustrates quite a number of them.

As to the geography, about thirteen of the fifty are found in Europe, and more than twenty in China, so that these regions are the centers of the genus. In eastern Asia there are five or six in Japan, three in Taiwan, and one in the Philippine Islands, which is surprisingly far south. The last is a variety of *D. odora*, and so is one of those in Taiwan. *D. genkwa*, which has lavender flowers quite different from all the others—some of you may have grown it, or tried to—has been grown in Japan for a very long time, but is not wild there. It is a native of China and Taiwan, introduced into Japan and there cultivated. In northeastern Asia is *Daphne kamschatica*, a deciduous and yellow-flowered species that must be very hardy as it grows right up in the center of Kamchatka. In the Himalaya Mountains there are about four species, possibly more, and in the southern U. S. S. R. several others. As far as I know only *D. pontica* is in cultivation from that region, but there is another, *D. glomerata*, which I believe would be well worth obtaining. There is also *D. caucasica* from the Caucasus Mountains, which has white flowers, and is rather tall, growing to about four feet. It was one of the parents of *D. burkwoodii*, that well-known hybrid.

Those from China which are, or have been, cultivated are *D. genkwa*,

\*A taped and subsequently edited talk given at a meeting of the Northwest Unit of the American Rock Garden Society in Seattle, Washington, on April 15, 1965.

\*\**Handbuch der Laubgehölze* (Paul Parey, Berlin)

which I just mentioned, and *D. odora*, which many of us grow, and *D. giraldii*, which we have had here in Seattle, but not at the moment; it is yellow-flowered and deciduous, looking like a rather poor type of *D. mezereum*, with small inconspicuous flowers. Then there are several evergreen kinds; *D. acutiloba*, which is not fully evergreen, but in cold weather will lose its leaves, as happened here last December. We have it here now, with a rather long pointed, evergreen leaf and yellowish-green flowers, but not a good yellow. *D. retusa* and *D. tangutica* are two dwarf, bushy evergreens, very similar indeed, but botanically distinguishable. There is also *D. aurantiaca* from northwest Yunnan in western China which may still be in cultivation in England and certainly was before 1940. It is a dwarf, low growing, spreading type which grows on limestone cliffs, which is what also occurs in Europe with *D. petraea*. *D. aurantiaca* has, of course, orange-yellow, very fragrant flowers, and was described by George Forrest as one of the most beautiful shrubs in that area, but so far as I know it hasn't been cultivated over here.

I have a little sprig of *D. retusa* for those of you who haven't seen it. It really is easy to grow, can be raised from seeds and will flower in perhaps four or five years, and is a very satisfactory plant, quite hardy in our normal winters, very fragrant, and it doesn't get too big. It also has red fruits which are quite showy in July and August, and the good habit of often flowering a second time in late summer.

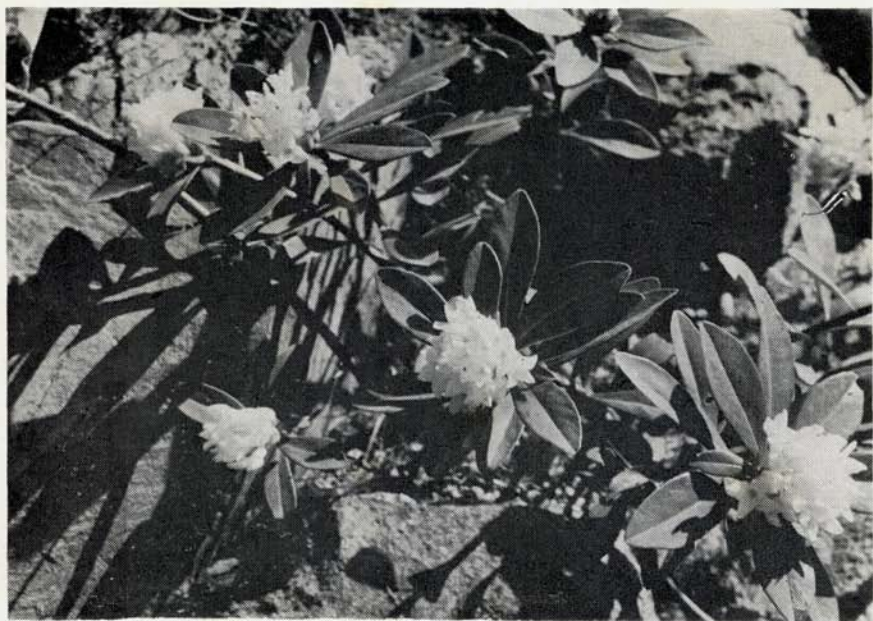
Now a little about the botanical classification of *Daphne*. There is one large section in the genus and three small ones. The large one, which is called *Daphnanthes*, in which the flowers are borne in terminal heads or clusters, includes, I think, almost all those which are commonly cultivated, both Asiatic and European. It is subdivided into six smaller sections; one of them, *Daphnanthoides*, contains the evergreen species *DD. japonica*, *odora*, and *acutiloba*; the *Alpinae* group, which includes *D. altaica*, with small white flowers; *D. caucasica*, which is also white; *D. giraldii*, the yellow one already mentioned; and *D. sophia* from Bulgaria, which we do not have so far as I know. Then there is the *Pseudo-mezereum* group which comprises two or three from Japan and northeastern Asia, including *D. pseudo-mezereum*, which is also yellow, and *D. kamtschatica*. Next is *Oleoides* from Europe, which includes *D. alpina*, *D. oleoides*, from Greece, and *D. gnidium*, from southern Europe. Then follows the *Collinae* group in which there are *D. collina*, *D. sericea*, and *D. blagayana*. *D. collina*, from Turkey, is a very satisfactory plant, indeed, forming a bush about two feet high and more than that in width. It flowers very freely at this time of the year (April) and is quite fragrant. It was a little damaged last winter, more by snow than by cold; heavy snow falling on these bushes is apt to split them open. It can be propagated most easily by summer cuttings. *D. blagayana*, from N.E. Italy and Yugoslavia, is a very distinct sprawling type of *Daphne* with very fragrant, early white flowers; one of the first to bloom along with *D. mezereum*. It has the habit of trailing along the ground and extending about nine inches every year. The bare branches behind the leafy part of the shoot should be covered up with fresh soil each year, otherwise it deteriorates. It is also a good idea to put rocks on top of this mulch to hold the branches down. It can be propagated by cuttings of the young shoots when they develop sufficiently in June or early July. *D. blagayana* is a very satisfactory plant if properly cared for, both for its earliness and its fragrant white flowers. These two, *D. collina* and *D. blagayana*, are very closely related, although they look quite different.

The last group of the *Daphnanthes* section is *Cneorum* which includes not only *D. cneorum* itself, but *D. striata*, which is a poorer relative; *D. arbuscula*,



a very nice little dwarf, rather slow growing species from central Europe in Hungary and Czechoslovakia, as well as *D. petraea* from the Dolomites in N.E. Italy, and *D. aurantiaca*, the orange-yellow rarity from W. China. This completes the large section; there remain three smaller ones. One of them is *Laureola*. In this section is *D. laureola*, which I have here. It is still flowering and also has young fruit on it so that both may be seen at the same time. Then there is *D. pontica* which is closely related, but the yellowish flowers are borne on a long stalk instead of being very shortly stalked as in *D. laureola*, which comes from most of western and southern Europe, but *D. pontica* extends only around the S.E. Black Sea area, making it more easterly in distribution. The other one in this section is *D. glomerata*, from southern Russia, which as far as I know is not in cultivation, but would be desirable. Next there is the *Mezereum* section which includes only the European and W. Asiatic *D. mezereum*, both white and purple forms. Then finally *Genkwa*, also with only one species, *D. genkwa*, from China. Both the species of the last two sections have axillary flowers up the stems, instead of being terminal at the end of the shoots as they are in section *Daphnanthes*, the largest section, as can very well be seen in *D. blagayana*.

Now as to the hybrids; about six hybrids are known and described. One of them is *D. burkwoodii*, the best known, I am sure. This is a sample of *D. burkwoodii*, a hybrid between *D. cneorum* and *D. caucasica*. It is considerably taller than the former and has lost a lot of the pink coloring. It is very intermediate in size between the two parents since *D. caucasica* grows about four feet high and *D. cneorum* not more than a foot. The hybrid will reach three feet, or in the case of the variety 'Somerset', about four feet. *D.* 'Somerset' is a little larger in size and pinker in coloring than *D. burkwoodii*, but they both come from the same cross. One hybrid which was raised not very far from here



*Daphne blagayana* flowering at Kirkland, Wash. April 1955

was *D. 'Mantensiana'* which was produced by Mr. Mantens in his nursery at White Rock, B. C., sometime before 1953 when it was first put on the market. It doesn't seem to have been very satisfactory as it is not too easy to propagate, and appears to be difficult to keep going. Its parentage is *D. 'Somerset'* crossed with *D. retusa*. It is a small evergreen bush, more like *D. retusa* in its foliage, habit, and flowers than *D. 'Somerset'*.

There is a hybrid between *D. lauricola* and *D. mezereum* which is both unusual and unexpected; one an evergreen species and the other deciduous, and of two different sections of the genus. This hybrid was raised in Belgium, apparently before 1850, but is quite uncommon. It is *D. 'Houtteana'*, named after Van Houtte, the Belgian nurseryman. We do not have it here, but it may still be cultivated in Europe.

*D. hybrida*, which is *D. collina* crossed with *D. odora*, was raised in France before 1827, quite a long time ago. *D. neapolitana*, which may be a variety of a hybrid of *D. collina*, is in cultivation; a small evergreen bush rather like *D. collina*, but the leaves a little different in shape and rather more glossy, the habit more upright. *D. thauma* is a natural hybrid between *D. petraea* and *D. striata*, from the southern Tyrol on the Austrian-Italian border, growing on the limestone. I doubt that it is now in cultivation, at least in this country.

Now, I'd like to mention an article on *Daphne*, if any of you want to pursue this subject further. It is *Daphnes in Cultivation*, by Dr. Amsler, in the *Journal of the Royal Horticultural Society*, January 1953. He covers all those that he could find in cultivation in England at that time, deals with their likes and dislikes, whether they require lime or not, how to propagate them, etc. It is good practical article on the subject, and illustrated quite extensively.

Finally, I have a collection of slides to show you, some of them from Europe, showing these plants in their native habitats. These slides were obtained through the courtesy of Mons. R. Ruffier-Lanche, University of Grenoble, France, and Herr Wilhelm Schacht, Curator of the famous Botanic Garden at Munich in southern Germany. To both of them we are very much indebted.

The slides shown included the following: *D. alpina* in the French Alps; *D. altaica* in the Botanic Garden at Geneva, Switzerland, as also *D. cneorum* var. *major*, in one example growing en masse with *Erica carnea*, in another with *Genista pilosa*, a striking combination; *D. arbuscula* on a limestone mountainside in Czechoslovakia; *D. cneorum* in the wild state, near Munich; *D. lauricola* var. *philippii*, a lower growing form with more obovate leaves than the normal species in the Pyrenees; *D. oleoides* in Greece; *D. petraea* in vertical limestone crevices on Monte Tombea and elsewhere in Italy; *D. striata* in the Bavarian Alps.

Much nearer Seattle, we also had a series by Mrs. Mulligan taken in our garden near Kirkland, showing *D. blagayana*, *D. retusa* and *D. collina*, all of which thrive there on top of a low wall, as well as does *D. cneorum*. The first and last have the benefit of an annual mulch of compost over their wide-spreading stems.

## INTERCHANGE

HEPATICAS SEEDS WANTED—From Sweden comes a request for seeds of *Hepatica americana* and *H. acutiloba*. Mr. Tage Lundell, Bondegatan 37, Ramlosabrunn, Sweden, a member, writes, "I would like to try sowing seeds of these two plants this autumn, as sowing seeds of *Hepatica acutiloba* in spring turned out to be a failure." Will some member please send our overseas friend seeds of good forms of these two plants in time for sowing this autumn? Perhaps he will have success.



BEWARE BULBLETS!—To quote, "In a recent plant list the cute little Jack-in-the-Pulpit, *Pinellia ternata*, is offered without any warning as to its weediness. This plant has long been a pest in Philadelphia gardens, spreading abundantly by bulblets borne on the stems, and becoming almost ineradicable. If your local climate is such that Garlic (*Allium vineale*) and Star-lily, (*Ornithogalum umbellatum*) are problems, you would regret adding *Pinellia*." Such is the warning of Dr. E. T. Wherry of Philadelphia. He added a postscript on *Polemonium*. "The *Polemonium pauciflorum* 'impostor' discussed in the January, 1965 *Bulletin*," he wrote, "continued to send up its yellow trumpets for three months, some days in such profusion that a colleague remarked that it should have been named 'multiflorum.' Its seeds had been harvested by Dr. Worth in his garden, and placed in the Society's Exchange in 1959. Being interested in plant geography, I asked him where he had obtained it in the first place, perhaps in Arizona or New Mexico? I should have known better, although it is native in those states—it had come to him from England."

A YELLOW LITHOSPERMUM WANTED—Dr. Wherry again. He wrote that exotic members of this genus with deep blue flowers are well known in rock gardens, but our yellow-flowered native ones are not. He continued, "A planting of one of these, the lovely Golden Gromwell (*Lithospermum canescens*), was desired in a garden of Pennsylvania natives. This is rare here, and at first I was able to obtain only two small plants on a remote shale barren. Then one May I was being driven by friends through central Illinois when I saw it growing along every railroad track beyond the weed-killer zone. Having no implement at hand, I extracted a couple with my fingers; the long slender taproot could not be obtained intact, but proved capable of growth anyway. The collection then comprised four, yet more were desired. Although this plant is one of the most beautiful wild flowers of Illinois, a native plant dealer in that state disclaimed any knowledge of it. One dealer in Missouri, where the plant also abounds, accepted an order for roots, but when they came they were too rotten to grow. Here, then, is a project for the attention of a prospective propagation committee of the ARGS."

PAGE MR. LYNN M. RANGER—Maj. Gen. D. M. Murray-Lyon, Pitlochry, Perthshire, Scotland desires a copy, new or secondhand, of Gabrielson's *Western American Alpines*. Our new advertiser may be able to satisfy his need.

DWARF TREES AND SHRUBS—Mr. Henry R. Fuller, 41 Sherwood Rd., Easton, Conn., has another suggestion for an article for the *Bulletin*. "I think there is need for an article on dwarf trees and shrubs (especially conifers) for the rock garden," he writes, "stressing those that a reasonably alert gardener might hope to obtain; also something of their propagation." Somewhere in our Society there must be just the right member for a literary project of this kind. Next April would be a good time for such an article to appear and the dead line is February 7 which allows all fall and winter for its preparation.

SEEDS!—Have you been collecting seeds for the Seed Exchange? Perhaps this will be the year when our list surpasses all other year's. Read the accompanying Bulletin Board for further information.

## BOOK REVIEWS

\* *Collectors Alpines—Their Cultivation in Frames and Alpine Houses*, by Royton E. Heath. Published by W. H. & L. Collingridge Ltd., England. Price app. \$12.00.

This impressive volume is the fourth in a series of publications by the British horticulturist author, Mr. Royton E. Heath. It is a more ambitious and ex-

panded production than its predecessor *Alpine Plants Under Glass*, published in 1951. The previous volume had similar coverage in its introductory paragraphs, and then referred to about 500 species and varieties of plants. The present book covers over 1800 plants, all grown by the author. Each genus described suggests methods of cultivation and propagation of the various species included. This part of the book accounts for about two-thirds of the volume. The first third explains and illustrates in detail the many facets of growing these plants and the specialized methods required for their care in containers and under glass;—that is in alpine or glasshouses and frames. Every needed construction and layout detail is included. The chapters following deal with composts, propagation by seed and cuttings, maintenance, pests, and diseases, and finally a chapter on exhibiting.

In evaluating this book, it is necessary to realize that it was written for the British enthusiast, and for the climate and conditions as they exist in Britain. The American gardener must learn to convert this text to the climatic and physical conditions for specific areas in his country. This same caution applies to most British horticultural books and periodicals. Much of the information is useful as applied to outdoor rock gardening. However, there is a question of plant hardiness for the many listed species that cannot tolerate the climate of most areas in the United States. This specifically applies to the many New Zealand alpiners that are included in the listed species. There are few areas (perhaps only the West Coast around San Francisco and the Pacific Northwest) that can possibly grow this group of plants outdoors.

Unfortunately, there are very few American growers who have concentrated on cultivating alpiners in frames and alpine houses. Incidentally, the use of the term "alpiners" as used in this text should not be construed literally, for it encompasses wild species plants from all zones; from the lowlands to the mountains. While the encompassed 1800 plants cover a wide classification of plants; conifers, bulbs, heathers, true alpiners, and even many American native plants not available here, it must omit many favorites of keen growers.

The volume's weakest group coverage is in respect to the bulbs, for there are many choice species that might have been included. The text is well illustrated with photographs and line drawings, but the photographs which are half-page or larger are of varying degrees of clarity and quality.

Considering the lack of American publication texts on this phase of specialized horticulture, it is a desirable volume for the keen plantsman.

HAROLD EPSTEIN

*Ericaceous Plants for Northwest Gardens*, by The Ericaceae Study Group. 41 pages. Illustrated. Published by the University of Washington Arboretum Foundation, Seattle, Washington, 1965. \$1.00.

Cooperative effort achieves spectacular results in many fields of endeavor. One outstanding example of such accomplishment is the bulletin on *Ericaceous Plants for Northwest Gardens* which has been painstakingly prepared by several plants-women who call themselves "The Ericaceae Study Group." Their weekly meetings over the last several years have borne tangible fruit with the publication of this capsule of information by the University of Washington Arboretum Foundation.

A short introduction acquaints the reader with the history and personnel of the study group, its aims and its approach to the subject. A simplified analysis of the Heath Family hints at the classification problems confronting botanists. A page headed "Characteristics of the Genera *Gaultheria* and *Pernettya*" presents a terse comparative study for ready reference.

A genus and species list proffers concise information under well-chosen



headings. Propagation and culture are treated in separate articles with a vast amount of reference material and experience condensed into a few paragraphs.

The list of sources for the purchase of ericaceous plants or seeds holds more than local northwest interest even though beamed to those readers.

The excellent drawings used as illustrations show detail of foliage and flower for a number of heathers, as well as flower, fruit, and foliage of *Gaultheria wisleyensis* which is on the cover page. One inner page is devoted to enlarged particulars of various flowers and fruits. The two closing pages contain clear and accurate drawings of a large number of ericaceous plants, including some of the more unusual ones.

Each facet of this study assumes prime importance as one reaches it. The bibliography is no exception. Far from being prosaic, it beckons other students to open and enter the gates which have led The Ericaceae Study Group to a close and useful acquaintance with the Heath Family. It has taken deep concentration and devotion to this subject and tremendous winnowing of the chaff to bring to the public the clean grain of information offered in this excellent book.

F.K.R.

## A WESTERN GARDEN IN MISSOULA

KLAUS H. LACKSCHEWITZ, *Missoula, Montana*

### Part II

It may not have been wise to plant the main group of *Drabas* on the south slope, but here they are, these tiny, modest plants representing in early spring the yellow color in the loveliest manner. *Draba paysonii*, "the one with the foliage resembling *Eritrichium*" has the most appealing foliage and is the first to open the many lemon-yellow flowers. Of the about one dozen or so plants planted in late summer 1961, four are surviving today. They have not made too much growth, but they are studded with flower buds, showing the yellow color since late winter. Fortunately, we have an easy-to-get source of this plant, so I can always replace it without much effort. *Draba densifolia* seems to be easier and gives me no problems. *Draba argyrea*, the coarsest of our *Drabas*, was planted last year. I think the *Drabas* belong on the scree, also they have a cool root run here and I "improved" the soil with additional pebbles and sand.

To the most important Westerners belong the *Eriogonums*, and the white-leaved, small *Eriogonum ovalifolium* is perhaps the most popular one. A whole flight of it decorates the south front of the little hill and gives me occasion to marvel at the unperturbed white foliage, persistent in all kinds of weather and at any time of year. In cultivation it tends to become "scraggly" and to run out after a few years. Under the rough natural growing conditions, it grows really old and often finally "petrifies" as a tight little mound above a thick, wooden taproot. To me, it looks at its best when adorned with many pink flower buds in spring. *Eriogonum piperi* carries the most showy rock garden flowers—large, lemon to buttercup-yellow flowers on short, stout stems. Besides, taken out at an early stage and transplanted into the garden, I experienced no failures. The foliage is not as ornate as is that of *E. ovalifolium* or *E. subalpinum*, but stays grayish-green and neat throughout the year. *Eriogonum pyrolaefolium* has hitherto resisted all my attempts at cultivation. This I can understand. It is at home on high mountain slopes, gravel and sand slides, often bordering alternate snow, and should be tried on a constantly moist scree. I do not miss it much.

Another plant, belonging to a very different genus, resembles it somewhat in colors and pattern of growth, looks only like a much refined and beautified edition of it. *Spraguea multiceps (umbellata)* I can more easily make happy.

Perhaps, because it takes or requires a dry spell in late summer, as so many of our plants do. *Eriogonum chrysops*, a little beauty with white foliage and golden yellow flowers, and a raspberry red-flowering form of *E. ovalifolium* from above timberline in the Bitterroots, have not passed their day of judgment. They apparently have come through the winter alive.

*Saxifraga bronchialis austromontana*, a mossy saxifrage with much charm, spreads over the rocks and flowers freely when given some shade. I have seen it succeeding in two other gardens here, too. *Saxifraga ferruginea*, with small rosettes and a graceful single flowering stem, resembling a diminutive *Saxifraga sarmentosa*, grows, but has still not flowered.

*Townsendia exscapa* is an extremely pretty, small cushion plant. The neat, round little mounds of gray, grassy-appearing foliage pleases at all times. The white or blush pink Easter daisies open very early and are of a particular charm to bees, butterflies, and men alike. None of the plants I collected refused to grow, despite being taken in full flower. I do not believe it will be very long lived, but it is certainly a good perennial, seeding itself freely in the garden. *Townsendia parryi* is a biennial, flowering later than the former, with a bit too tall flowering stem for such a small place, but it is enormously showy, and seeds itself like a weed. But it is easy to transplant or eliminate and the flat, green winter rosettes look attractive on the gravel.

Quite a number of native succulents have become an important part of my rock garden's flora here. Two Montana barrel cacti give me much pleasure: *Coryphantha missouriensis*, opening its many straw-colored flowers at the Bitterroot flowering time and displaying scarlet fruits later, and *C. vivipara*, with bright red-purple flowers. They have not increased as much as they do on Frank Rose's place, growing fully exposed to wind, sun, and frost there. But they are certainly holding their own.

*Opuntia polycantha*, a large plant, growing right below and around the sagebrush on top of the hill, increased rapidly, as did *O. fragilis*. As much as I like *O. polycantha*, our "Prickly Pear", I developed a dislike for *O. fragilis*, which, in my fantasy, is too closely associated with rattlesnakes and a merciless, piercing sun. Maybe this originated when, admiring *Mertensia longiflora* and white shooting stars, on all fours, I put my knee right into the center of one of its kin. All of the *Opuntias* and barrel cacti have withstood, under a very thin, light snow cover, —30 degree temperature last December 17th, and —9 to —20 without protecting snow this March. One single plant of *Pediocactus simpsonii*, which a friend collected for me, did likewise.

Our most common *Sedum*, *Sedum stenopetalum*, neatly tufted and pretty, until flowering time, in the wild, outgrew its decent proportions in no time and became as invasive as *Sedum acre* is in Eastern gardens. So I had to weed it out. Maybe its blue-gray, instead of the green-leaved forms would have been slightly better. But *Sedum lanceolatum*, an alpine plant, resembles it in shape and color of the yellow flowers and is much more delicate, the tiny tufts changing color from bluish-gray to red-purple in winter. And it stays put. The most remarkable and beautiful of our *Sedums* is *S. leibergii*, with compact-growing glaucous rosettes and yellow flowers, also. Given the protection of some shade, it succeeded and flowered freely.

Serving as ground cover plants foremost are the members of two genera: the Pussy Toes, *Antennarias*, and the Sandworts, the *Arenarias*. The numerous pretty red flowers of *Antennaria rosea* look well for a very short time together with blue Penstemon. But I have to shear the flower stems off the plants soon, before they go to seed. *Antennaria rosea*, as well as *A. aprica*, are invaluable for their fast covering of steep grades on the south slope. But they are rambunctious





*Mertensia oblongifolia* in the rock garden.

Ingvard Eide

and tend to overrun all kinds of less vigorous neighboring plants. The gray foliage is pretty, when the weather is dry—during moist weather it looks rather soaked. *Antennaria rosea* has a looser growth, appears in billowing mounds overhanging rocks and could be the only one suited for larger plantings with underplanting of native bulbs. It grows naturally and looks extremely well with *Mahonia repens* and bearberry. The much better plant for a small garden and restricted place is *Antennaria alpina*. The one I found is, as a diminutive plant, common in the mountains at a height over 8,000 feet. After a long period of initial struggle, it became established. It does not remain so tiny and seemingly restricted as when it grows in its natural habitat, but it still is the smallest of its tribe, with the most beautiful foliage, slowly increasing in a tightly closed mat. The few white to brownish, short-stemmed flowers can be easily picked off.

May the gracious reader forgive me for I am still uncertain about the proper species and subspecies of our *Arenarias*, the Sandworts. A tiny and tidy mossy carpet, very common all over the high Bitterroots, if it is an *Arenaria*, is the most useful for me. And of all the "grassy" ones, I have kept a piece of little evergreen sod, brought home from Lolo Peak, with plants not over five inches high with an open inflorescence. Two others of the common "grassy" *Arenarias* I have weeded out.

Of all the plants kept generally for their beautiful flowers but showing mostly good-looking winter foliage, too, the *Penstemons* are the most important and numerous genus for us here. I have tried practically all available kinds but only kept a few, those whose flowers seemed to be indispensable for a local rock garden. *Penstemon polyphyllus* (Syn. *nitidus*) is still a bit too high. Further-

more, it is a biennial, and yet it is so beautiful in its mother-of-pearl and sky-blue pageantry, that I am not willing ever to miss it. The glaucous blue-gray crown looks fine during the cold months, too. *Penstemon eriantherus* is not a biennial though it is short-lived also. It has a decent height and the large, lilac to lavender flowers are outstanding. Since both kinds are easily available and, like all Penstemons, good to transplant and thrive on the little dry hill, I made it a custom to replant each year a few new ones. *Penstemon ellipticus*, *P. procerus*, *P. wilcoxii*, and mostly, *P. albertinus*, too, are too tall for my rock garden. I keep a few nearby in the background. The pale yellow to white *Penstemon flavescens*, a mountaineer, grows well also. A few from higher altitudes are seemingly willing to behave. Others I had to eliminate.

Of the *Procerus* type with small flowers in heads, I have one clear, medium blue, perhaps *P. pseudoprocerus*, which is not over five inches high and fits my desires. *Penstemon rydbergii* from the high Bitterroots, where in certain places it puts on a grand show and obviously grows to a respectable age, could become my favorite in future years. With its wonderful, deep blue color and many graceful, short spikes, it resembles a miniature *P. albertinus*. And *P. diphyllus* is the very last of all Penstemons to commence flowering and therefore, despite its rank growth, has to make the deep blue background for *Sphaeralcea coccinea*, the bright, salmon-red "Cowboy's Delight." This plant, with a long flowering season, finely dissected gray foliage and brilliant color, has the faults of pushing runners out toward all sides, and of seeding itself, too. I have put it under close guard. Just one more experience—*P. diphyllus* is one of the few of its genus which can stand some shade, and the flowers of "Cowboy's Delight" lose their brightness with the least bit of shade.

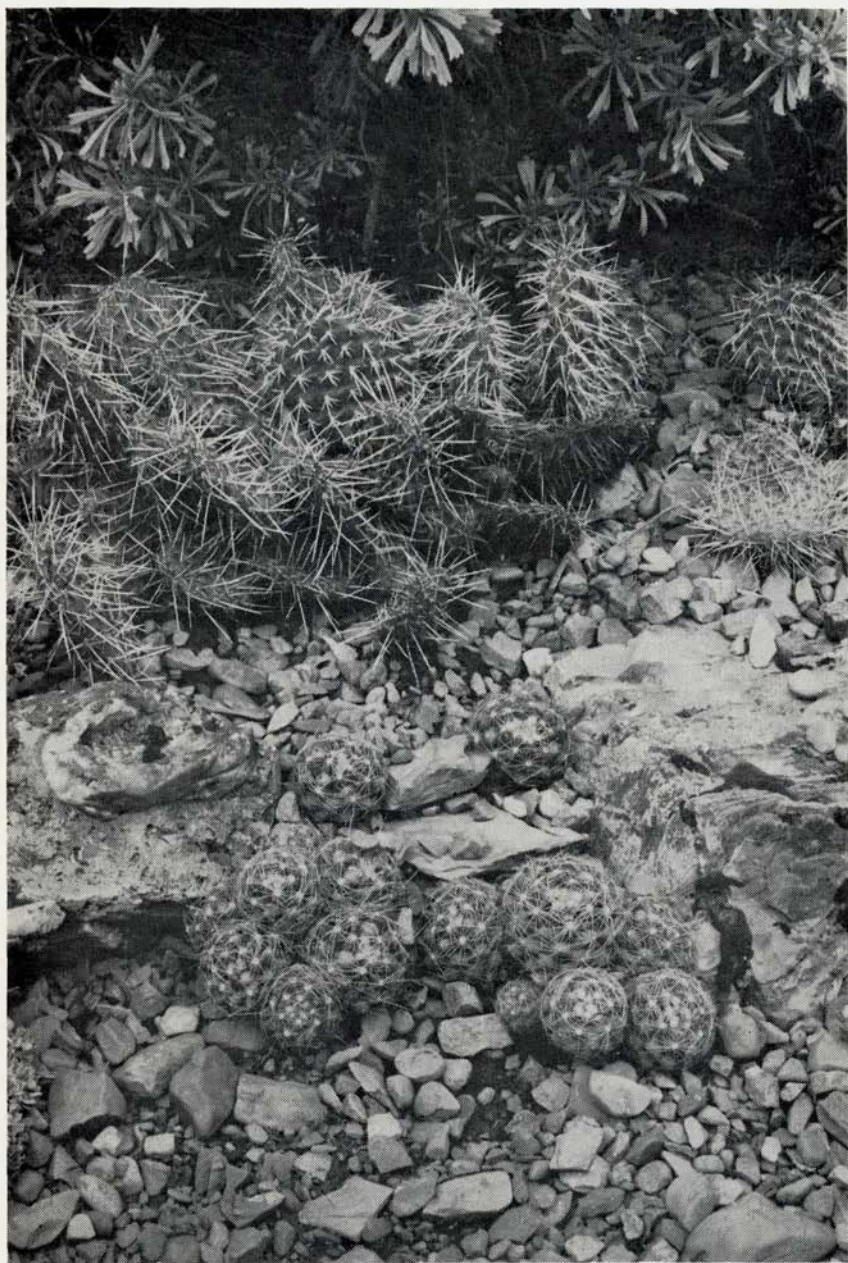
*Synthyris missurica*, whose attractive, practically evergreen foliage is too heavy for the small rock garden, is one of the very best garden flowers under all kinds of different conditions. Here, it flowers more than two weeks earlier than *Muscari botryoides*, from the last week in March to the end of April, together with the early primroses. Its deep purple flower spikes are beautiful and appear abundantly. All the plants were taken out bare rooted and started growing at once. I have distributed it in a number of local gardens and used it to advantage as a groundcover.

I have been less lucky with the similar-looking, considerably smaller *Synthyris platycarpa*. Planted two years ago, it has not flowered with me, and shows signs of chlorosis. I have not been able to discover any budding flower spikes today (17th of March), when I gave up counting the ones on *S. missurica*. Another plant, collected on high mountain peaks in the Bitterroots only last year, *Synthyris pinnatifida*, with dissected, evergreen leaves, showing a glaucous cast and little flower spikes, their color varying from light blue to deep purple, has its budded flower spikes pushed out already. This is a true dwarf, with the same type of strong roots as the other *Synthyris* have. So, I hope, it will be a tough one, and how pretty it would be to have it flowering on the little hill in the first week of April, together with the pink *Douglasia*, white *Towensendia*, and the yellow *Drabas*.

At this time usually appears the first flower of *Anemone patens* in its stirring beauty. But this plant does not fit well into the best society. It has an overwhelming flower beside the small cushion and carpeting plants. The foliage, as fine as it is, behaves similarly to that of the *Aquilegia* in the East—it comes and goes too often. And what a pity—it flowers such a short time. But a rock garden in our region would be sorely incomplete without it—the "Wild Crocus", as it is called here.

Of the many Asters here, *Aster scopulorum* is one of the more difficult ones





*Artemisia tridentata*, *Opuntia polyacantha*, and *Coryphantha missouriensis* in the rock garden.

Ingvard Eide

establishing itself. It has an extensive root system, but the plants are worth the trouble taken. To me, this is the most charming true Aster I have ever seen. It expresses a certain weightlessness and reflects much sunshine in its fine-rayed flowers. But I have seen it flowering by the thousands on open, windswept hills, and there I may have lost my objectivity toward it. Two distinct shades, the common blue-purple plants and one good red-purple, flowering, making a fine show. Its sparse foliage does hardly show up. In the winter, only a small, woody budded crown remains. Several other dwarf Asters are growing on the hill, but these flowered last year for the first time, and are still not identified.

*Erigeron compositus* I threw out for tremendous weediness and replaced it with the variety *E. c. trifidus*, displaying equally pretty foliage, but being much smaller in size and faultless in manners. *Erigeron ursinus* is a fine plant. A plant of it is holding its own right in the midst of the merciless, choking "Pussy Toes" on the south slope. Its pleasant green crown shows off to advantage right today. A few other pretty dwarfs of the genus remained still unidentified newcomers.

Out of love for the genus *Campanula*, I fell for the Scottish Harebell, *Campanula rotundifolia*. I should have known better. Furious weeding of runners as well as seedlings followed. But once, last summer, in the Rattlesnake Creek area, I saw on an almost vertical wall above the road a pure white harebell hanging down in a gorgeous bouquet of its graceful, pendulous flowers. I could not resist again, got the bush and made myself three new plants from it. Here this most common *Campanula* comes late into flower and has a long reblooming season, continuing well into fall—more so if one cuts carefully the spent flowering stems. *Campanula uniflora*, brought home from an elevation of 9,000 feet in late summer, 1962, grew and increased in the cold frame of a nursery, as well as in my garden. Surprisingly early, much earlier than *C. rotundifolia*, it flowered the next year. The root system is similar to that of *C. rotundifolia*—much branched, but shallow running. If it is not in flower, there is very little to be seen of the whole plant; here and there, hiding among pebbles, a tiny tuft of pointed leaves. The very few, singly appearing, erect, blue-purple flowers on very short stems have an outspoken appeal—if brought closer to the eye. It is not much that it does for the rock garden, a rock garden that requires so much of its plants.

Several of my plants were missing after a good summer's heat. One flowered the following year. Unfortunately, it grew in the occasional path of the neighbor's black retriever, a lovable soul, but with the weight of a fat hog. Again, last summer, I planted several more *C. uniflora*, but I think it belongs on a moist scree.

*Campanula parryi idahoensis* I know as one of the few truly sod-forming *Campanulas*. It is certainly very closely related to *C. uniflora* (as both are to *C. rotundifolia*). The flowers look much like the former, uprightfaced, one on each stem, not more than six inches in height, but they appear in an airy multitude, above finer foliage and a dense mesh of thin roots. Since the plant is not an alpine as is the former, I have been curious to observe any changes in its exterior after having become established in the garden. But it disappeared too soon. I hope the much disputed question about the relationship of these three *Campanulas* will soon be settled after some additional work on them, including a chromosome count.

Beautiful and indispensable as they are, the last group of rock garden plants in my own rating are the ones whose life above the surface of the soil is restricted to only a short period of the year. Here the number one is our famous Bitterroot, *Lewisia rediviva*. The exotic beauty of its flowers, light to dark pink and sometimes white, supercedes all others. The time of its total disappearance is only



short, from July to sometime in fall. And the succulent winter rosettes have a decorative value, too, especially when seen appearing in close-set pattern above fine pebbles. In any sunny spot with fast drainage, and left alone by chemicals and watering hoses, it is a long-lived and free-flowering perennial. I have had success in taking it out in early spring—rosettes fully developed—it flowered the same year in the garden.

Easy to collect and plant as a corm are *Mertensia bella* and *M. longiflora*, the latter being the best rock garden plant in appearance. Both flowered well the first year, and disappeared the third year after planting. But *Mertensia oblongifolia*, planted the first summer, makes beautiful and flowering clumps. This plant has long, fleshy roots. How beautiful it would be together with early white and yellow primroses; better than *M. virginica* and the Pulmonarias. Here, some of my selected, old "dimesize" cowslips take the summer drought better than *Mertensia oblongifolia* would stand constant moisture.

*Dodecatheon pauciflorum* and *D. cusickii* were not long-lived with me, but I suspect some other plants took their place in the fall to spread their close foliage on top of the empty places. The fairly long-stemmed *Calochortus* species, *Camassia quamash*, *Brodiaea*, as beautiful as they are, I did not take in my tiny garden. *Fritillaria pudica* does very well.

Too many other plants, foremost the *Ericaceae*—the many native Pyrolas, orchids, the gentians, Trilliums and Erythroniums, the early white Trollius—all I shall grow in a future planting of mine—I hope!

## NOTES FROM THE NORTHWEST

SALLIE D. ALLEN, *Seattle, Wash.*

SPRING FIELD TRIP:—To miss a Northwest Unit outing is disappointing. However, when one's daughter volunteers her mother's services, for the same day, to assist with plant identification on a conservation field trip for the fifth grade classes from school, there is no question as to the path the proud mother will follow.

The one hundred and five children had all been well prepared beforehand by their three teachers in order that they could all participate fully in applying their classroom knowledge to growing things in the field. How quickly and eagerly they learned, and how much fun they had! It is never too early to begin teaching children an appreciation of the natural beauty around them, and making them aware of the important question of conservation.

At the same time, one hundred and fifty miles away, an adult group, sincerely interested in the principles being taught the children, were enjoying the same kind of a day, exploring, learning, and appreciating our native flora. This, the Northwest Spring Field Trip, is described as follows by Mrs. Elizabeth Peterson, of Seattle.

Those of us who do not go on trips very often are like horses champing at the bit when spring indicates a field tour is about to be announced. This time the tour was more exciting than ever because we went into Eastern Washington to visit semi-desert ridges and high pine woods. An informal group in five cars found itself on a cattle-bordered Umptanum road which ran through a most accessible rocky scree. People with shaded gardens took pictures in the sun, while those with sunny garden spots leaped out of cars with digging tools and glad cries of, "Oh, how beautiful!" and, "What is that?" Not all humans were impressed with our enthusiasm: a farmer asked if we were after rattlesnakes, and one member, having informed some tourists of our organization, was asked if

she had found any good rocks. Another query concerned mushroom collecting.

First to call attention to themselves were *Lewisia rediviva*—"water lilies on the ground"—shading from creamy pink to rich rose. Their slender, succulent, needle leaves had been up and gone before the flowers appeared. In our garden we keep these plants in the sun and in sandy loam, with stone chips surrounding their collars. Some years the flowers do not appear, but they are good seed providers when they do flower. Another pink was found in *Trifolium macrocephalum*, a truly large-headed clover with silvery leaves. Pale blue *Camassia quamash* and *Iris missouriensis* kept company near swales, with deeper blue *Brodiaea douglasii* (?) nearby in drier soil. Star flowers on a twelve-inch spike crown the camassias, which also seed abundantly. The brodiaeas, we were unhappy to discover, had long "tap bulbs" tightly imbedded in the rock-filled soil. Interesting to find among the irises were dried pods, holding seeds which had weathered the winter and were still waiting to be scattered.

Plentiful were dainty erigerons of white, pink, yellow, and lavender, and scattered intermittently over the flower carpet were *Allium acuminatum*, whose seeds were ripening. *Allium cernuum* was in bud—a graceful plant of lavender-pink, nodding umbels. Not holding blooms were many plants of *Viola trinervata* with their lacinated leaves. We were too late to behold the lovely, fragrant, two-toned blossoms. Their companions, *Eriogonum thymoides*, delighted us with red buds and bright yellow compound buttons. They also had relatives of cream and orange. Not to be ignored was *Penstemon gairdneri*, a small needle-leaved shrub which carries short, flat-faced trumpets of pinkish-purple. They are reputed to lose their leaves in winter, and want sun, air space, sandy loam, and drainage.

Too brief was the time spent here for collecting and lunch, eyes alert for cattle ticks. Then we headed for Taneum. One hill we passed on the way was a pink one, completely covered with the tall-growing *Phlox speciosa*. These Eastern Washington phloxes are difficult, if not impossible, to transplant, so we took cuttings in hope of some success.

A steep, winding, dirt road, very dangerous when wet, led us to Taneum, where we found a woodland prairie at about 4,000 feet which was as alive with color as had been the scree. Whereas pink and blue were the dominant colors of Umptanum, this area was yellow and blue. The dainty little yellow bells of *Fritillaria pudica* bobbed everywhere. These "frits" are difficult to keep in the garden, and Florence Free recommends putting them in pots which can be overturned during the summer for thorough baking. Sheltered under pines were little clumps of *Anemone oregona* of many blues—cerulean, amethystine, sapphire, and diamond blue. A five-inch, deep blue *Delphinium bicolor*, with white bee, was here, and also the taller *D. menziesii*. These plants move beautifully with never a stop to their bloom and are happy in sun and sandy loam. They, too, disappear underground for the summer and produce nice, fat seed pods before they go. Shyly showing their drooping, pink-budded, sky-blue bells were the gray-leaved *Mertensia oblongifolia*, which also disappear in summer, and like dry, piny or sandy soil.

There were rich purples in what might be a smaller version of *Dodecatheon conjugens*. These "five-inchers" like moisture in spring, sandy loam, are sun-bathers in summer, and are good seeders. Queens in royal velvet paraded this garden kingdom—the beautiful ten-inch *Sisyrinchium douglasii* (grandiflorum) which, in one member's garden, are already providing seed. More violet, too, in *Polemonium pulcherrimum*, which is reputed to take well to cultivation, and in *Parrya cheiranthoides*; much better to collect seeds than try to unearth its really long tap root. Beneath these glories, flat on the ground, were ruffs of almost succulent, spatulate leaves adorned with white flowers, delicately blue-striped—



*Hesperochiron pumilus*, such a magnificent symbol of the gentle evening. Mark well the spot, or better yet, pot the plant and dry it. Daintily fringed, soldanella-like white bells of *Lithophragma parviflora* and *L. bulbifera* nestled in and about the larger plants. Who would ever suspect them of being "stone-breakers?" *Penstemon fruticosus* was noted in rock cliffs along the road.

So many things to be seen and too short a time! It was an elated but exhausted group which left these sun-filled paradises for an evening run back to the cloudy coast. These are sites to be visited and revisited, so numerous are the plants to identify and collect. Once we are better acquainted with these plants, perhaps we should return to collect seeds. As an awed transplant, this writer, whose taproot is in New England, and whose feeder roots are in Seattle, I can only say that the Tourist Bureau has excellent reason for urging all to visit the State of Washington.

FROM NEAR AND FAR:—Many of our members took part in the activities planned for the interesting visitors from at home and abroad who were in the Pacific Northwest in the spring and early summer. Mr. Boyd Kline and Mr. Lawrence Crocker from Medford, Oregon joined us in garden tours and a trip to the mountains during their week in our area. We had the pleasure of a day with Dr. Tsuneshige Rokujo, a well known ARGS member from Tokyo, Japan, and his business associate, Mr. J. Matsumoto. Mrs. Edith Cormack, Aberdeen, Scotland, attended our June meeting. A delightful day of garden visiting was also shared with her. Dr. and Mme. Georges Morel, were here from Versailles, France. Dr. Morel, a member of the Alpine Garden Society, is associated with the Central Experiment Station for Plant Physiology. A day at Mt. Rainier, a morning in the Rain Forest in the Hoh River Valley and an afternoon on Hurricane Hill in the Olympics gave these visitors a fair cross section of what the Pacific Northwest has to offer.

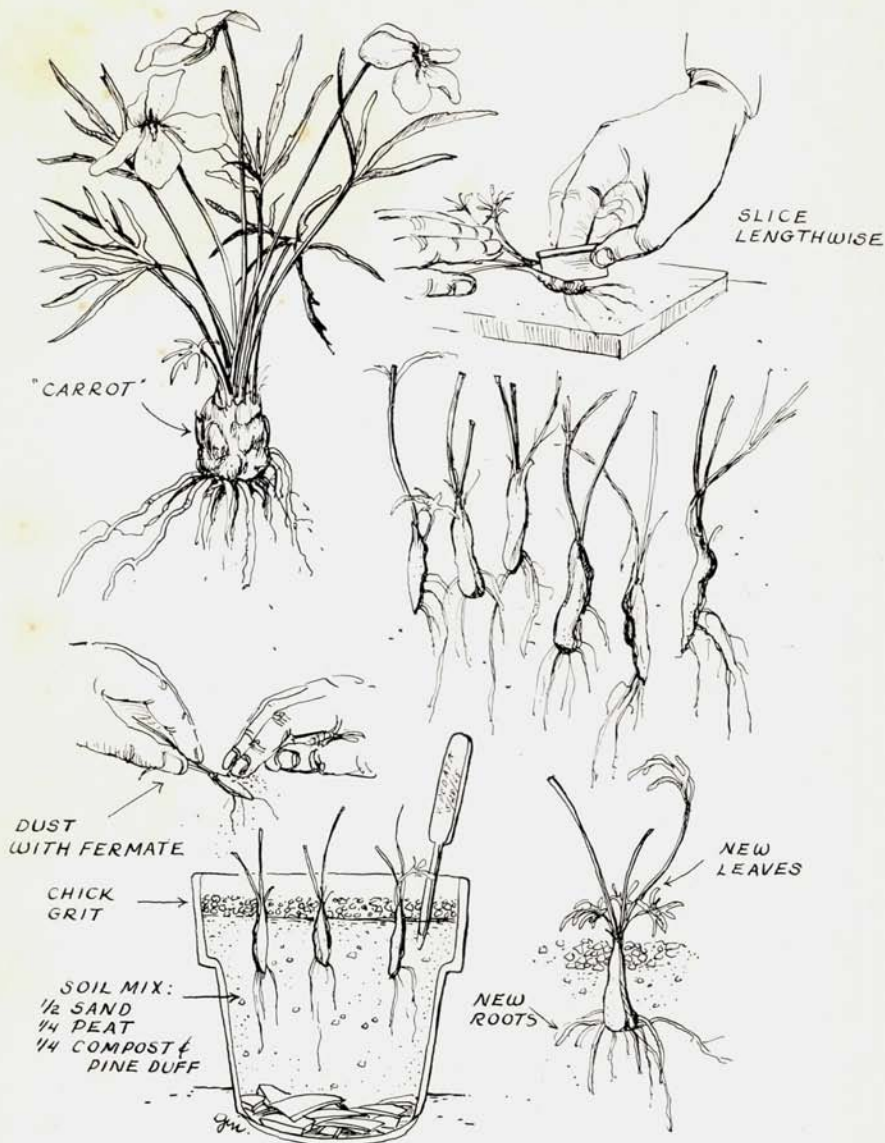
## THE BIRDSFOOT VIOLET

BURR BRONSON, *Watertown, Mass.*

The Birdsfoot Violet, or *Viola pedata*, has been of interest to me for many years, ever since I found it on the shores of Lake Walden, of Thoreau fame. Here they grew by hundreds in full sun in a soil of sand and pine humus from the forest surrounding the lake. There were none of the variety, *V. p. bicolor* here. My first sight of these was on the sunny side of a country road in Missouri, where for several miles the roadside was blue with both varieties growing together. I received permission from the road commissioner to dig a few to take back to my garden. He said that he would be glad if I took them all as they were a pest, and that in a few weeks the road scraper would scrape them off in an effort to get rid of them. Little did he know that in cutting off the tops he actually was propagating them, as every root would soon produce a new top, and, where one grew before, a half dozen would replace it.

Three years ago my interest was furthered after reading in Hills' *Propagation of Alpines*, that the many color breaks and leaf forms should be propagated and made more available. On further reading in other books and rock garden journals, I found that there were all shades of blue, lilac, pink, and even dark red, as well as white, cream, and blue-white. I also learned that seed was rarely set, and division was the method advised. But I couldn't seem to find any cleavage for division in the carrot-type rootstock; so for some time I turned to other plants.

A few weeks later I received a copy of the official program of the 67th Annual Spring Flower Show of the Massachusetts Horticultural Society. This



A method of propagation of *Viola pedata*

Virginia Howie

was a fifty-page book, and included was a nine-page article, "Propagation of Wild Flowers" by Will C. Curtis of Garden in the Woods, South Sudbury, Mass. Here I found the answer to dividing *Viola pedata*.

Mr. Curtis wrote in part, "Stored plants brought into the greenhouse in late winter, and forced for two weeks, can be divided almost indefinitely. Every leaf with a small scrap of basal tissue and a root will grow and produce another plant." This I found to be true, but I also found that the smaller the division, the longer it took to produce a new plant of blossoming size. Having no green-



house, I waited until growth started in April, and then, with a single-edge razor blade, sliced the carrot-like root stick lengthwise, first in half, then quarters, then eighths, depending on the thickness of the carrot. After dusting each cut side with Fermate powder to protect against root rot, I planted each section in a pot of soil consisting of one half sand, one quarter peat, and one quarter compost and pine duff. Pots were placed in a shaded cold frame until new growth started, and then gradually given increasing amounts of sunlight. The new plants bloomed in the following May.

Since my first attempt, I have learned many things about growing this plant. I found that they do not like dampness around the crown, which will result from too deep planting. To avoid this I leave one-quarter inch of carrot out of the ground, and place a ring of granite chick grit, or coarse sand around the collar. I have also found that division can be made any time from April to August, even with the plant in full bloom, and the new plants will bloom the following year.

Friends have told me that they cannot grow *Viola pedata*, that they winter kill, or bloom very little, or not at all. I find that, given acid, sandy soil in full sun, they will not only bloom in May, but start blooming again in August and every month from then on until heavy freezing. I now have many colors, including the rare white, and, as they require the same conditions as my dwarf heathers, I grow them in the heather garden.

## WELCOME! NEW MEMBERS

- Zinaida T. Artivshenko, Botanical Institute of the Academy of Sciences of the U. S. S. R., Leningrad, U. S. S. R.
- Mrs. Mary Alice Bennett, 539 S. Lake Drive, Prestonbury, Ky. 41653
- Mr. Fred W. Bergman, "Raraflora", Stump Road, Feasterville, Pa. 19047
- Mrs. Alice E. Bettington, 5409 Phinney Ave., Seattle, Wash. 98103
- Mr. Henry Blethen, 47 Federal St., Reading, Mass. 01867
- Mrs. Winthrop H. Bowker, 2184 Massachusetts Ave., Lexington, Mass. 02100
- Mr. A. J. Brownmiller, R.D. 4, Box 274, Gibsonia, Pa. 15044
- Mr. J. C. Burns, 3424 College Ave., Regina, Sask., Canada
- Mr. and Mrs. Dale M. Chapman, Box 34, Tariffville, Conn. 06081
- Mr. Carl P. Deame, Box 186, Dalton, Mass. 01226
- Mrs. George E. DeCoursey, Grub Hill Road, Paoli, Pa. 19301
- Mr. Arnold DeVries, P.O. Box 75923, Sanford Station, Los Angeles, Calif. 94515
- Mr. and Mrs. William C. Diederich, 522 Hilltop Terrace, Cliffside Park, N. J. 07010
- Mrs. David P. Dutton, Freedom, N. H. 03836
- Mrs. Charles W. Ehlers, 3rd, 18538 Carlwyn Drive, Castro Valley, Calif. 94546
- Mr. Leonard Eyes, 37 Day School Lane, Belmont, Mass. 02178
- Mrs. Newel B. Fletcher, Rt. 2, Box 50, Magazine, Ark. 72943
- Mr. William S. Fowkes, Box 331, R.D. #1, Cheswick, Pa. 15024
- Dr. W. Ronald Frazier, 4205 S.W. Torr Lane, Portland, Ore. 97221
- Mr. Paul G. Frenzelas, 4075 Eve Drive, Seaford, N. Y. 11783
- Mr. Aaron Goldman, Dillon, S. C. 29536
- Mrs. Robert E. Grey, Deer Trail Farm, 8141 Franz Valley Road, Calistoga, Calif. 94515
- Mr. Gary G. Gurley, 2703 S. First St., Union Gap, Wash. 98903
- Mrs. Verla Heitman, Hardy, Nebr. 68943
- Mr. Richard B. Hendrickson, RR #4, Nashville, Ind. 47448

- Hunt Botanical Library, Carnegie Institute of Technology, Pittsburgh, Pa. 15213
- Mr. Arthur W. Iffland, Iffland Nursery, Moscow, Penna. 18444
- Mr. and Mrs. Philip Gustav Johnson, 2840 Fortieth Ave. West, Seattle, Wash. 98199
- Mrs. A. A. Johnstone, 1 Nahsu Drive, Lincoln, R. I. 02865
- Mrs. Josephine Kuhlmann, 24 Sheppard Lane, Stony Brook, N. Y. 11790
- Mrs. William T. LaGrove, 11535 West Ricks Circle, Dallas, Texas 75230
- Mr. and Mrs. Marvin Lee, 308 Westport Road, Wilton, Conn. 06897
- Library of College of Agriculture, New Brunswick, N. J. 08903
- Mrs. Johnny R. Linard, 3301 E. 93rd St., Kansas City, Mo. 64132
- Mrs. Edward Lusenring, Leopard Road, Berwyn, Pa. 19312
- Mr. and Mrs. L. E. Martin, Hunter Forge Farm, R.D. #1, Macungie, Pa. 18062
- Mr. Chester Massey, Cloverleaf, Bldg., Knoxville, Tenn. 37900
- Mr. John B. Murphy, Box 296, Bridgeport, W. Va. 26330
- Mr. Charles Pecora, Rokeby Farms, Upperville, Va. 22176
- Pennsylvania Horticultural Society, 325 Walnut St., Philadelphia, Pa. 19106
- Mr. Robert J. Perrier, 8400 Russell Lane #92, Cleveland, Ohio 44109
- Mr. Thomas E. Raney, Stonybrook, R.D. Cornwall Bridge Road, Sharon, Conn. 06069
- Mr. and Mrs. James Rintoul, Westwoods, Westbrook, Conn. 06498
- Mrs. Joanne H. Rumery, P.O. Box 372, Saco, Maine 04072
- Mrs. Clifford Schule, Old Plain Road, RD #1, Pennsburg, Pa. 18073
- Mr. G. Vincent Scofield, 1112 Highland Road, Charleston, W. Va. 25302
- Mr. Gerhard Sidow, 10 John St., Montvale, N. J. 07645
- Mr. John H. Topp, Princes Pine Road, Norwalk, Conn. 06850
- Dr. Carlton M. Vail, 8 Nancy Boulevard, Merrick, N. Y. 11566
- Mrs. George A. Walsh, Rt. 2, Litchfield, Maine 04350
- Mr. Lance S. Walters, 16 Salisbury Terrace, Collinswood, South Australia, Australia
- Miss Ruth M. Wilson, 881 Englewood Road, Cleveland Heights, Ohio 44121

TREASURER'S REPORT  
FOR THE YEAR ENDING MARCH 31, 1965

Cash in banks at March 31, 1964

The Northwestern Bank, Hendersonville, N. C. . . . .	\$2,282.70	
East River Savings Bank, New York, N. Y. . . . .	3,092.58	\$5,375.28
Income for the year:		
Life membership . . . . .		150.00
Current Dues — 1964 . . . . .	\$1,421.22	
Prepaid dues — 1965 . . . . .	2,065.71	
Prepaid dues — 1966 . . . . .	82.89	
Prepaid dues — 1967 . . . . .	31.00	3,600.82
Sale of Bulletins . . . . .		389.73
Advertising in Bulletin . . . . .		225.00
Plant sale at Annual Meeting . . . . .		170.00
Sale of Books . . . . .		112.50
Sale of Stationery . . . . .		45.00
Interest on Savings Account . . . . .		133.51



Income from dinner for retiring			
President .....		63.00	
Seed Exchange income .....	\$ 391.52		
Less - Expenses .....	283.69	107.83	
		<hr/>	
			\$4,997.39
Expenses for the year:			
Bulletin expenses:			
Printing .....	\$2,120.74		
Cuts .....	104.93		
Mailing and postage .....	276.78		
Editor's compensation .....	350.00		
Office expenses .....	15.29		
		<hr/>	
			\$2,867.74
General Expenses:			
Secretary's compensation .....	400.00		
Printing and stationery .....	696.20		
Postage .....	181.61		
Office equipment .....	100.00		
Meetings expense .....	65.00		
Moving expense .....	84.00		
Office supplies .....	49.55		
Exhibits at Flower Show .....	31.75		
Flowers for Ed Totten .....	28.03		
Telephone .....	26.98		
Travel expense .....	25.00		
Membership dues .....	20.00		
		<hr/>	
	\$1,708.12	4,575.86	
		<hr/>	
Excess of income over expenses for the year ending March 31, 1965: .....			421.53
			<hr/>
Cash in banks at March 31, 1965:			
Manufacturers Hanover Trust Co. of N. Y. ....		2,570.72	
East River Savings Bank, New York, N. Y. ....		3,226.09	\$5,796.81
		<hr/>	<hr/>

Respectfully Submitted  
ALEX D. REID, *Treasurer*

## OMNIUM-GATHERUM

*Dodecatheon!* Remember our emblem? Here in the Northwest members are beginning to ask questions. What is being done by our officials to implement our choice of a floral emblem? When will the stylized likeness of the genus *Dodecatheon* appear on our Society's stationery and on the cover of the *Bulletin*? What has happened to the sketches submitted by several members? Have they

been judged? These members are requesting an official progress report be made available for publication in the January *Bulletin*.

A short article was sent in by Mrs. Helen C. Funkhouser who lives in Los Angeles County, California, at Cornell, which gives us an unusual picture of wild life close to the great city of Los Angeles.

"The Santa Monica Mountains (the Elfin Forest) of Southern California," she writes, "is a place full of secret beauty that is gradually being destroyed by the population explosion. There are still to be seen, however, exciting areas where owners appreciate the rugged beauty, and all who love this wild area pray they will not allow civilization to take all of it away. One thrilling moment came when friends took us down into their beautiful canyon. After going down and down the rugged canyon lined with the wild mallow, *Sphaeralcea fasciculata*, in full bloom of pink and white (Jepson also gives variety *S. f. laxiflora*), we suddenly heard the sound of falling water. Those who know the Santa Monica Mountains know that to hear water in late July is an exciting event for this is the dread fire season in Southern California.

"As we climbed over the rocks between great clumps of leopard lilies, *Lilium pardalinum*, in full flower, we saw a seventy-five foot fall of clear spring water tumbling straight down the rocks to a beautiful pool below. The entire face of the rock was covered with lovely maidenhair fern, falling like the long tresses of a beautiful maiden with ribbons of red and yellow where cardinalis and a yellow mimulus grew. In our four years here we have thrilled to the frosty look of the mountain in bloom with *Ceanothus*; we have loved the constant beauty of the penstemons blooming most of the year; we have watched the white marching ranks of *Yucca whipplei*, (Our Lord's Candles); we have reached what we thought was the peak of beauty when the sun lit like a flame the canyon of scarlet delphiniums; but this experience was so awe inspiring that we drank it in in silence.

"Once more we felt the call of this wild country where we can still watch the deer and the foxes water at our pools; where the mountain lion will kill the deer for food within a short distance of our home, and where we hear the hooty owls call to one another in the night across the hills. During the day the bulldozer makes the most insistent sound, and we realize that we must drink deep of the beauty of the hills and the canyons while there is still time."

*While there is still time*—Keep this thought in mind while you read the following letter written by Mr. Richard H. Pough, a member from Pelham, N. Y., to Dr. Harry E. Ahles, Curator of the Herbarium of the University of North Carolina, Chapel Hill, N. C., in July, this year:

"You were quoted in a recent article in the *Bulletin* of the American Rock Garden Society (April, 1964) as having written in December, 1963 concerning *Pyxidantha brevifolia*, 'It still survives, but is definitely not long for this world. Civilization is rapidly encroaching on its habitat, and often when you go to visit one of its localities, there, instead you will find a home.'

"What bothered me was your phrase, 'it is definitely not long for this world.' To me this is an admission of defeat long before it is necessary to admit defeat.

"There exists in this country an organization known as the Nature Conservancy which has a three quarters of a million dollar revolving loan fund for use in saving areas occupied by rare plants.

"If a local committee can be organized, funds can be obtained at once to option or buy a sample area and the funds to reimburse the Nature Conservancy Loan Fund raised over a period of years.



"We owe it to coming generations to make a determined effort to keep our regional ecological spectrums intact and not let the habitat of any species be completely destroyed.

"Every member of the American Rock Garden Society should, I feel, feel free to call on the Nature Conservancy for help in situations like this whether they are members of the Conservancy or not."

Excerpts follow from Nature Conservancy literature sent to the Editor by Mr. Pough:

"Every untouched, natural or wild area that can be saved from exploitation gives tomorrow's generations a *living museum* as a link to America's past."

Under the heading "How You Can Help", two of several ways are here quoted, "Tell the Nature Conservancy if you know of an outstanding area that should be preserved." and, "Notify the Nature Conservancy whenever any proposed action or operation (road building, clearing, drainage, logging, grazing, etc.) imperils a preserve or other natural region that should be safeguarded against loss or damage."

Members desiring to know more about the Nature Conservancy and the application of its services toward the perpetuation of rare botanical species in areas that are threatened with exploitation should write to Mr. Pough, whose address is 33 Highbrook Ave., Pelham, N. Y.

So many times has the phrase "horticultural knowledge locked up in the minds of ARGS members" been used that many may be weary of it. We know that our membership is the repository of a vast store of such knowledge, the exact extent of which can never be determined as long as it is kept locked away. We know that there are members, and non-members, too, whose gardening adventures could be made more interesting and successful did they but have access to such knowledge. We know that many members do unstintingly share their own particular knowledge through the various media of communication—articles in the *Bulletin* and elsewhere; pamphlets and books; lectures, correspondence, and conversations at scheduled meetings and at chance encounters with friends. To them our thanks. The real problem is how to gain access to the tremendous amount of hoarded horticultural knowledge that reposes in the minds of our noncommunicative members—for they are vastly in the majority.

General solicitation of articles and other material has been tried in the *Bulletin* with partial success. Individual solicitation by letters from the Editor has resulted in a definitely heartening response (there is a limit to the number of such letters that can be written); but still the majority refrains. Why? The Editor suspects lethargy; good intentions nullified by procrastination; lack of confidence in the accuracy of acquired knowledge, or in the ability to adequately record such knowledge in writing; fear that what is known has not sufficient value to interest more experienced gardeners. There are undoubtedly other reasons, as well.

How can the noncommunicative ones be influenced to become articulate? Direct and indirect solicitation is not wholly successful; appeals to their sense of duty falls on deaf ears; pressure from ARGS officials seems resented; honest encouragement is shrugged off. What is the Editor to do? Remember that writing for the *Bulletin* must remain a voluntary act; no coercion will ever be used, nor will the Editor stoop to plead for material. Remember, too, that it is not because there is any dearth of material with which to keep the *Bulletin* currently solvent that this is written. It is written solely for the purpose of creating a desire within a certain silent group of members, large in number, to share their knowledge and experiences with their fellow members; to build, with their help,

a better *Bulletin*; a more knowledgeable Society, and gardens of greater interest and beauty.

To hoard knowledge when others might benefit from its dissemination is to disavow man's responsibility to man (within the ARGS—a gardener's responsibility to other gardeners). To hoard knowledge through selfishness or hope of self-aggrandizement is unthinkable in a gardener. But to hoard knowledge, rather, a failure to release it through fear of ineptness in transferring this knowledge to paper, is understandable. Should you fall into this category, you owe it to yourself to make an attempt to write—to hesitate is to stifle the development of a possible latent talent, and more important still, it is a denial of the existence of personal courage. Try! Your mind will direct your hand—the words will come—a part of you will be imprinted on paper. Then, perhaps, some of your knowledge will go forth, bits of it here and bits there, scattered throughout the gardening world—you will not know where.

Do not think small—do not belittle your own talents. You have it within your power to help gardeners unknown to you and resident in odd parts of the world. The printed words, your words, comprising the very essence of your knowledge, the secrets of your gardening skill, your finest thoughts, can fly anywhere. You can not know what good will result, what questions will be answered, what inspiration kindled. You will not know where or how your words will fill some real need, nor who may be benefited—and you may never know.

It is noble for man to help man, knowing how and whom he is helping. This is a positive act. It is far nobler to project knowledge into the realms of the unknown, conscious only that you have included all mankind in the scope of your giving. This is an act approaching godliness.

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