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C. R. Worth, Editor

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VISIT TO JAPAN

HAROLD EPSTEIN, *Larchmont, N. Y.*

THE ABILITY TO CULTIVATE so many of the finer plants emanating from Japan, and a realization that our Eastern American flora is so closely akin to it, had created a keen desire to learn more about Japan, its plants and people. During the past few years such curiosity was further kindled as a result of correspondence and interchange of seeds and plants with some keen plantsmen in Japan. Early in the year plans were therefore completed for a visit during the summer period, although it was realized that this would not be the ideal time for a maximum of floral display. But with no other choice of time, we consoled ourselves that it at least would permit a period in the mountain areas to observe some of the alpine flora.

The westward flight to Japan was through Hawaii where a few days were devoted to enjoying the islands and their fine climate and tropical flora. The balance of the Pacific crossing was uneventful except for losing a day at the International Date Line. After a few hours stop-over at Wake Island, we arrived on schedule at Haneda Airfield outside of Tokyo before noon on July 4th. It is always reassuring, upon arrival in a strange port, to be greeted and we were particularly pleased to be welcomed by Mr. Y. Matsumura and his son. It was over two years since he had been to the States and had visited with us and had been presented with an honorary membership in the American Rock Garden Society. It was an interesting taxicab trip into the bustling center of Tokyo to our headquarters at the Imperial Hotel. We had just completed our formalities and had our second lunch of the day when a group headed by Mr. M. Ozawa and Dr. T. Rokujo and their interpreter friend, Mr. Ito, called to greet us. Inasmuch as no advance plans had been completed for our stay, the next few hours were devoted by the group of us to reviewing the activities that had been planned for the following weeks.

It is impossible to relate all the details of our very busy schedule in the ensuing days and weeks, but we must compliment both Mr. Matsumura and Mr. Ozawa for their wonderful hospitality, for the time and effort expended in our behalf, and for their patience and assistance in planning our schedules.

We had been forewarned that our arrival would be during the rainy season which usually ends about July 10th, but unfortunately this schedule was not accurate for the rains persisted for about another two weeks. We did not let this hinder our activities and it reflected only on our Kodachrome pictorial record. In fact it was not only the elements which handicapped our photography, but for the first time in a dozen years, mechanical problems with the camera plagued us during the last part of our stay in Japan. We were therefore deprived of many valuable shots of people, plants and places that may never again be obtained even upon a return visit, which we already speak about. The resulting moral is that on future travels there will be a secondary camera with us.

Prior to our arrival, plans were completed by our hosts for a few talks to horticultural groups in different cities and our schedule necessarily revolved around these commitments. The first was just a few days after our arrival and we consequently entrained for Osaka with Mr. Matsumura. One of our most interesting visits there was to Mr. and Mrs. K. Kurokawa, who had a summer home and garden on Mt. Rokko, reached by train and cable car out of Osaka. With our group was Dr. Y. Shichiri, director of the Osaka Flower Society, Mr. Y. Arino, and Mr. H. Kitamura, connected with the local railroad and its parks and gardens. This mountainside home and garden overlooking the distant harbors of Osaka and Kobe contains a wealth of native Japanese plants. The shaded woodland area, with a stream running through it, is covered with large drifts of *Shortia uniflora,* various schizocodons, *Epigaea asiatica, Patrinea palmata,* cypripedium and many other terrestrial orchids, *Glaucidium palmatum, Vaccinium praestans* and a host of other choice plants. This is one of the finest private gardens visited and differs from so many others, particularly smaller gardens, where most of the cultivation of fine plants is in shallow containers. After some relaxation, refreshments and beverage, we took leave and were transported to the Mt. Rokko Alpine Garden, which is maintained by the railroad company. Here, among many new plants, we had our first glimpse of the ethereal alpine *Dicentra peregrina* var. *pusilla* in flower. This is perhaps the most famous of Japan's alpines and also one of the most challenging to cultivate. Here as well as in subsequent plantings, the emphasis is upon the sharpest of drainage so that in all cases it appears to be grown in lava, often from Mt. Fuji.

We then returned to Osaka via the cable car, bus and train on schedule for a talk and Kodachrome slide show before the Osaka Flower Society (which is equivalent to one of our horticultural societies), where there is an extremely varied interest. This meeting is held in the modern quarters of the American Cultural Center (part of the U. S. Information Service) in an office building. Prior to the general meeting and talk, we attended a show of the members interested in alpine gardening. We were introduced by the Center Director, Mr. M. E. Haworth (native of Wisconsin), and replied with the help of our friend, Mr. Matsumura, who acted as interpreter on this and many other occasions. Members had displayed on tables in the center of the room some specimen alpines, superbly grown, in beautiful trays. This style of gardening is popular with many keen plants people and the quality of the plants is overwhelming. Here we saw for the first time some new forms of Japanese plants that apparently had only recently been discovered. They are distinct diminutive varieties of familiar alpine species that emanate from Yakushima, a small island south of Kyushu, in a latitude which may be described as semi-tropical. There is little information that could be obtained about the habitat of these plants other than that the lower elevations on the island are covered with dense tropical undergrowth, whereas the mountainsides support a varied alpine flora. I have not

as yet located any published flora on the area. Plants from this island that were displayed at this Osaka meeting were a hardy (?) form of a bamboo about 3 to 4 inches tall, a tiny smilax a few inches in height with ovate leaves about ¼ to ½ inch in diameter. But while on the subject of these Yakushima plants, I later saw other diminutive forms such as *Shortia uniflora* with leaves no more than ½ inch in diameter and supposedly with normal size flowers (which is hearsay for I did not see any in bloom). Up to this time the only familiar plant from this island was *Rhododendron yakusimanum,* a species publicized only in recent years in England and thence in the U. S. This rhododendron of the Ponticum series (caucasicum subseries) is described as hardy and only time will determine the extent of its hardiness and whether it can take our Eastern sub-zero winters. I saw this plant first in bloom a few years ago at Exbury in southern England and recall that it left a very favorable impression at that time as a desirable neat garden species. The few plants seen in Japan were not in bloom but apparently it is valued highly by the Japanese connoisseurs. For the past few years it has been used for hybridizing in England and may produce some interesting offspring.

I seem to be wandering from the scene, and come back again to the Osaka meeting. Following this little alpine display and then some refreshments, we adjourned to the meeting room where there was an audience of at least 200 people—men and women. After a couple of short introductory talks by Japanese plantsmen, I proceeded with my showing of Kodachrome slides of some of our Western alpines and Eastern natives. Again Mr. Matsumura acted as interpreter and he must be commended for this is a challenging task. I must again digress and comment on this subject of language and interpretation. Horticultural terms in Japan are usually in the Japanese language and it is exceptional to find the international Latin used or understood as commonly as in other foreign lands. In fact Latin has been taught in few schools in that country and so has not received the recognition that is so necessary in scientific circles. The result is much confusion and fumbling for language in conversations or talks. There cannot be too many botanists who can translate spontaneously a combination of English and Latin and bring it into reach of the average Japanese horticulturist. But this feat was accomplished for me on a few occasions by Mr. Matsumura and later by Mr. Takeda, well known Japanese botanist.

The audience in Osaka was extremely interested, and of course awed by the excellence of the Kodachrome reproduction which is far superior to the Japanese color film. There is keen interest in American plants and much discussion and questioning followed the lecture.

Some additional time was spent in Osaka and the charming suburban town Takarazuka (Treasure Hill). Here the railroad has established a recreation center, which includes the famous Takarazuka Opera, a zoo, amusement park and botanical garden. The director of the latter section, Mr. Asahi Hirotsu, was our kind host for the visit and the memorable day was devoted primarily to the theatre and the well maintained and interesting garden and greenhouses. Incidentally the musical performance at the theatre was excellently produced and so enjoyable that we preferred it to many a New York theatrical production.

The next city to be visited was Nara, the ancient capital and cultural center of Japan. During our stay there, we visited the Mt. Kasuga National Forest, where the predominant tree is *Podocarpus nagi.* There were also large stands of *Pieris japonica, Lithocarpus edulis, Abies firma, Magnolia obovata, Camellia japonica, Callicarpa japonica, Tsuga sieboldii* and dominating all, the regal speci-

mens of *Cryptomeria japonica,* which we found through much of our travels in the country. Ground covers were *Mitchella undulata, Epigaea asiatica,* various ferns—pteris and polypodium and one species very distinct and interesting, *Lemmaphyllum microphyllum.* This latter is known as the "bean-leaved fern" and is a vigorous climber upon the trunks of trees. It was seen on a few occasions in cultivation in trays overrunning a hummock of moss.

Of course much time was devoted to visiting temples and shrines, museums and treasure houses and other Japanese cultural activities, all sufficiently diversified to make our days completely enjoyable. Our experiences with native food were always interesting although we learned to be selective and soon eliminated from our diet the ever popular and staple raw fish in different forms. We could diversify our diet by changing to Chinese food, nearly always available, or to Western menus in most of the larger hotels.

The time we had allotted to Kyoto (the capital previous to Tokyo) was far insufficient for this center of culture and interesting gardens, and we could not do justice to it. A visit to the Botanical Gardens of Kyoto University was followed by a visit to the Shugakuim Detached Palace and Gardens built in 1652. This consisted of three separate Imperial dwellings, each with its distinct garden and all on different levels and separately enclosed. Adjacent to them were the neat rice fields, with women usually the workers. Another impressive garden visited in the Kyoto area was the Ryoanji Temple Garden (1499) famous for its simplicity and severity for it consists only of a few stones, some moss and, primarily, gravel expertly raked into meaningful patterns. Another was the Sanboin Buddhist Temple which has a comparatively small garden, but near the entrance an immense weeping cherry with an elaborate bamboo frame beneath it, presumably to brace the heavy branches. An aged trained *Pinus pentaphylla* also commanded a prominent spot in the midst of the garden and here again its branches were trained and supported by bamboo in order to achieve a desired shape and formality. Pines and other conifers, maples, and azaleas skillfully arranged produced a magnificent study in design, texture and color. In this garden as well as in those previously visited, the use of moss as ground cover was most conspicuous. Its richness in color and feeling of age and serenity cannot be duplicated by grass or any other vegetative planting. It is commonly used in paths between stepping stones, on embankments, under shade of trees, in large patches in lieu of lawn or grass and even in varying patterns within gravel walks and courts.

But the garden that is most outstanding and impressive is at the Katsura Imperial Villa. A recently published book, well illustrated, is available for further details of this large and well maintained garden with its beautiful stonework, bridges, planting and may appealing details. The old villa with its moon deck and the temple are all immaculately maintained and complete a memorable and impressive visit.

These are but a few of the many attractions visited in Kyoto. Space does not permit further elaboration.

After Kyoto, we visited Nagoya and while there were enthusiastically received by Mr. Koichi Mizuno, Director of the Higashiyama Botanical Gardens. Here many improvements are in process and great plans are under way for enlarging this city garden. The seriousness of the project indicates that this should be one of Japan's better Botanical Gardens. After a few well filled days here, we started off on a previously planned mountain trip, an experience which proved to be one of the high-lights of our entire visit.

(To be continued)

SOME DESIRABLE SPECIES OF STACHYS

GORDON P. DE WOLF
Bailey Hortorium, Cornell University

"STACHYS PRESENTS more than *S. corsica* and *S. lavandulaefolia* as candidates for admission to the Rock Garden," wrote Sampson Clay in "The Present Day Rock Garden" with reference to Farrer's comment in "The English Rock Garden." I don't propose to comment on Clay's list of species, but I do want to discuss the two previously mentioned species, and a few others, which came to my attention while studying the cultivated species of the genus in connection with the preparation of manuscript for Hortus III.

The genus is perhaps best known to gardeners in this country through such species as *S. lanata,* a rather robust and heavily white pubescent sort, useful in the perennial border. The genus is related to Sideritis and Marrubium, from which it differs in having the stamens exserted (extending out of the mouth of) from the corolla-tube, and to Ballota from which it is distinct by the nature of the calyx. There are perhaps 300 species distributed over much of the world, well developed in the temperate regions generally, but lacking in Australia and New Zealand.

The genus Stachys, in modern botanical nomenclature, dates from 1753, the year of publication of the "Species Plantarum" of Carl von Linné, (better known as Linnaeus). The genus was not new here, however, for Linnaeus based his concept on the "Stachys" published in the "Ordo Plantarum, quae sunt flore irregulari monopetalo" written by Augustus Quirunus Rivinus, Professor of Botany in the University of Leipzig, in 1690. The name was also used by Joseph Pitton de Tournefort, Professor of Botany in the Jardin des Plantes (the Royal Gardens in Paris), in his "Institutiones Rei Herbariae" of 1694 (3rd edition 1719).

Linnaeus included eight species in his original publication of the genus, none of which concern us here. The first species of interest to us is the *Stachys lavandulaefolia* of Martin Vahl, Professor of Botany in the University of Copenhagen. This was published in 1790 in the "Symbolae Botanicae," a weighty tome, measuring 10½ by 16 inches, which presented the results of Vahl's studies of the plants collected by Peter Forskal, a pupil of Linnaeus, in the "Orient," which in those days meant Egypt and Asia Minor.

We attribute this name to Vahl, not because he was the first to describe the species, but because he was the first student after 1753 to give the species a binomial name, in accordance with the precedent established by Linnaeus in the "Species Plantarum." Actually, Vahl was not the first to name the plant, nor was Forskal the first to collect it. Vahl records that a specimen existed in the herbarium of Sebastian Vaillant, of Paris (who had died in 1722), and he further stated that the *Galaeopsis orientalis, Lavandulae folio, calyce villosissimo* of Tournefort's "Corollarium Institutiones Rei Herbariae," of 1703, was also this species.

Stachys lavandulifolia is a small plant, spreading by rhizomes, which send up leafy shoots 5 or 6 inches tall. These bear narrowly elliptic, petiolate, leaves, the blades of which may be 1½ inches long and ¼ inch wide, covered with a grayish or whitish tomentum (mat of hairs), dark striate along the veins. These leafy shoots are terminated by 4 or 5 whorls of flowers. The calyx and corolla, also, are covered with a long tomentum, giving the young inflorescence a rather velvety appearance. The tube of the calyx is about ⅜ inch long and the teeth may reach ½ inch or more in length. The corollas are not as long as the com-

Stachys coccinea Paxton's Mag. of Botany 8:101. 1841

bined length of the calyx tube and teeth, and are reddish purple. This species is native in northern Asia Minor. Though it is reputed to be in the trade in this country, we have no herbarium records of horticultural material, nor any information on hardiness. In England it is said to be extremely sensitive to excessive moisture during the Winter.

Stachys corsica, of Christian Hendrick Persoon, is the other species admitted by Farrar to the realm of "good" rock garden subjects. In habit this species resembles the Gill-over-the-ground, *Glechoma hederacea,* Linnaeus [Nepeta hederacea, (Linnaeus) Trevisan; Nepeta Glechoma, Bentham], in that it is a low, prostrate, herbaceous creeper, with sub-orbicular, crenate, leaves. It is distinguished, however, by its large (to ½ inch long) flowers, abundantly produced throughout most of the Summer. A native of Corsica and Sardinia, this

apparently was not known to Science before the explorations of La Billardiere and Miot, in Corsica, toward the end of the 18th Century. It is hardy at Ithaca, New York.

Stachys hirsuta, (Linnaeus) Bentham [*S. densiflora,* Bentham]; *S. discolor,* Bentham [*S. nivea,* Steven]; and *S. grandiflora,* (Steven ex Willdenow) Bentham are closely related species, formerly placed in a separate genus, Betonica. It was originally thought that certain characters of the flower separated these plants—which differ somewhat in habit from the rest of the genus—from Stachys. But we now know that certain indubitable species of Stachys proper do have these characters, so the genus is treated as a synonym of Stachys. These species can, however, be readily recognized by their rosulate (rosette-forming) habit. The spikes which rise above the rosettes in Summer are terminated by whorls of showy, purplish flowers.

Stachys hirsuta is a native of the mountains of southern Europe. This, the *Betonica hirsuta* of Linnaeus, has been known since the publication in 1682 of Christian Metz's "Pugillus plantarum rariorum . . .," but it was not until the publication of Linnaeus' "Mantissa Plantarum," edition altera, in 1771, that the species had a name legitimate under our present nomenclatural system.

Herbarium material that I have seen of this species, shows a slender rhizome terminated by a loose rosette of pubescent (covered with short hairs), petiolate (to 2½ inches long) leaves, the blades to 2 inches long and 1 inch broad, oblong-elliptic, basally cordate, and strongly crenate. The flowering stems rise to as much as 12 inches high, bearing a single pair of leaves, similar to, but smaller than, the rosette leaves. The inflorescence is dense flowered and spike-like, about 1½ inches long, and subtended by a pair of very small, deflexed, leaves. The corolla may be ¾ inch or more long. This is apparently not now cultivated in this country, but is sometimes listed by European sources.

Stachys discolor is a plant of the eastern Caucasas, similar in habit, though somewhat larger, than the last species, and with the inflorescence a long, interrupted, whorled, raceme. The basal leaves are petiolate (to 3 inches long), pubescent, with a narrowly oblong, strongly crenate, blade, to 4 inches long and ¾ inch wide. The flowering stem, which rises a foot or more above the rosette, bears two or more pairs of leaves, scarcely different from those of the rosette. The lowest whorl of flowers is subtended by a pair of leaves similar in size and shape to those of the stem. They are not deflexed. The inflorescence may be as much as 10 inches long, with 4, or perhaps more, distant whorls of flowers. The corolla is nearly an inch long. This species has been known since the early part of the 19th Century when it was described by Christian Steven in the 3rd volume of the Memoirs of the Societe Imperiale des Naturalistes of Moscow. It is sometimes offered in European lists.

The third species in this group, which we are considering, *Stachys grandiflora,* is offered quite freely in the trade in this country. It has sometimes been offered under the name *"Nepeta grandiflora"*—which is a very different thing. This is the largest of the species to be mentioned here. The pubescent rosette leaves are borne on petioles up to 6 inchs long. The blades are cordate, strongly crenate, and measure up to 4 inches long and 2¾ inches wide. The flowering stems, which may reach 2 feet tall, bear several pairs of leaves. The lengths of the petioles of the leaves decrease upwards, so that the uppermost leaves are almost sessile. The inflorescence may be 10 inches long, and is composed of several, distant, whorls of flowers, the lowermost one or two of which are subtended by large, almost sessile, leaves. This is native in the Caucasas and in Siberia, and, like the last, was first described by Christian Steven at the beginning of the 19th Century.

The last species I want to mention is the *Stachys coccinea* of Nicholaus Joseph. Baron von Jaquin, Professor of Chemistry and Botany in the University of Vienna. This species was first described in the 3rd volume of the "Plantarum Rariorum Horti Caesari Schonbrunnensis . . . " which was published in 1798. It is perhaps interesting to note, in passing, that in the 50 years from 1760 to 1810, the Royal Gardens at Schonbrunn, just outside Vienna had one of the finest collections to be found in Europe at that time, a collection particularly strong in plants from the Cape of Good Hope, and the West Indies. The species under consideration is a native of Mexico and the adjacent southwestern United States. It is cultivated in England, and on the Continent, and has been since the time of its original publication, but does not seem to be cultivated in this country. Another case of the prophet not being appreciated in his own country!

We have a number of specimens in the Bailey Hortorium collections, representing wild material from Mexico. They indicate a rather variable species, sometimes weak and almost trailing, generally robust and erect. There appears to be no basal rosette, and the flowering stems range up to 30 inches or more tall. The leaves are petiolate, the blades generally ovate-cordate, to 2 inches long, 1½ inches wide. The whole plant is pubescent. The inflorescence is a more or less dense, whorled raceme, 2 inches or more long. The corollas are ¾ inch or more long, ranging from orange to scarlet. In Mexico the species grows naturally in open, dry, woodlands of pine or oak, at altitudes ranging from 5,000 to 10,000 feet. It is reputed to be hardy in England, though extremely sensitive to excessive moisture.

ENGLISH WILD FLOWERS FOR THE ROCK GARDEN — II

R. GINNS, *Desborough, Hants, England*

IN MY LAST ARTICLE I dealt with a number of early flowering plants mainly belonging to the natural order Ranunculaceae. The species and varieties then discussed by no means exhaust the plants used to brighten our rockeries during early months of the year, so this article will deal with a further selection.

The poet Burns has made famous our common daisy, bellis, in one of his best known poems. Normally white, many specimens have scarlet tips to the ray florets, and by selection, many different forms are now available for the garden. A great, bloated double form in white, pink and red has been evolved for spring bedding but I should never dream of introducing any of these to the rock garden. All the grace of the wildling has disappeared and the only word that can be used to describe them is "gross." But there are forms that can fit quite well into the average rockery without bothering about the "fat pink daisy called Alice" mentioned by the editor in a recent note on double flowers. Fifty years ago the pride of my boyhood's garden was an edging of *Bellis perennis* 'Rob Roy,' neat and dwarf with quilled florets in a very satisfying shade of red. Those who do not object to double flowers will find that this will be quite at home in the rockery. Much smaller and daintier is *B. p.* 'Dresden China' with masses of small, fully double flowers in a very pleasing shade of pink. Seedsmen's catalogues will give other varieties but I have not grown them. An interesting curiosity that I once had was known as the 'Hen and Chickens Daisy.' The central rosette carried large flowers whilst the plant was surrounded by a ring of small ones.

As much a favourite as the daisy is the violet, of which there are several species. *Viola canina,* found in woods, has much larger flowers, paler in colour

than those of the sweet violet, *V. odorata,* and scentless. In my garden, even in full sun, I find it somewhat of a nuisance owing to its free-seeding habit. It has an extensive root system and in weeding the upper part is apt to be broken off, leaving the root to shoot afresh. Much more welcome is the sweet violet. As regards colour, was the plant named after the colour of its flowers or was the colour named after the flower? But the plant has sported into a whole range of colours. White is to be expected but I have also a pale blue, a rather washed-out red and a pale apricot-yellow. Shady, north-facing banks of the rockery are easily furnished by these various forms, but although the usual habitat of the plant is in hedge bottoms I find that it is by no means averse to a place in the sun from where it has to be evicted periodically. In early spring the leaves are small and short-stalked so that the flowers appear well above them. Later on the leaves are much more vigorous. One of my banks is a very pleasing picture in April with a multicolored carpet of these violets, all self-sown and inextricably mixed. There are double violets but these are florists' flowers, normally grown in frames or as a field crop in the mild climate of Cornwall. I have never heard of them being used on the rockery.

The original *Viola tricolor,* from which the large flowered bedding pansies have been derived, found on arable farm land, is too insignificant for use in the garden. But one or two of its derivatives are very much in place on the rock garden. I treasure two, each of which commemorates a famous gardener, from whose gardens they came to mine. First comes *V. t.* 'Bowles' Black' a small flowered form whose flowers are as close to black as can be desired. The late E. A. Bowles relates the history of this little plant in his book, "My Garden in Spring," and also how it received its name. It comes true from seed with which it is lavish, so that I always have seedlings awaiting removal by admiring visitors. Moreover, there are very few weeks of the year when its cheerful little faces fail to greet me on my daily strolls around the garden.

The first president of the Alpine Garden Society was Sir William Lawrence, who lived at Riverdale House, Burford, and there originated *V. t.* 'Riverdale Rogue', with roguish looking little flowers of purple and gold. Sir William's widow, Iris, Lady Lawrence, gave me a plant in 1937, and although none of these little violas is very long lived, it reappeared as selfsown seedlings after the neglect of the war years. It is strange how true these two violas come from seeds whilst other species such as *VV. bosniaca (elegantula), cornuta, gracilis, rothomagensis,* etc., produce nothing but a horde of hybrids.

Another native viola, *V. curtisii,* I always associate with a weekend organised by the AGS and its then president, Dr. Giuseppi, at Felixstowe immediately after the war. Talks and lantern lectures were interspersed by visits to the doctor's alpine houses, full of the most marvellous alpines from all corners of the world. Then, one afternoon, we were taken out for a picnic to a Suffolk heath, after which we were led to a certain hedge where the sandy heath was carpeted with a lovely little viola, hardly any two of which appeared to be the same colour. A few from amongst the thousands were carefully dug up and planted in a special compost in my garden. But they pined for the austerities of their sandy heathland and soon had disappeared. Nor could I again find the spot from which they came.

* * * *

I think the true gardener is a lover of his flowers, not a critic of them. I think the true gardener is the reverent servant of Nature, not her truculent, wife-beating master. I think the true gardener, the older he grows, should more and more develop a humble, grateful and uncertain spirit, cocksure of nothing except the universality of beauty. — Farrer

ROCK GARDENS IN THE SOUTH

CAROLINE DORMAN, *Saline, Louisiana*

LET A STATEMENT BE REPEATED enough times and it will be accepted as fact, without further investigation. If I mention rock gardens, I am always greeted with a surprised protest, "Oh, but we can't have rock gardens in the South!" Well, anyway, I *have* one — small, but satisfying. Of course we cannot grow alpine plants. I tried a few, and when the first blasts of June struck, they went out.

Call it stubbornness if you will (I prefer to call it a spirit of adventure!), but I just have to try things. Even as a child I had ferns, mosses, violets, and Jack-in-the-pulpit tucked between rocks in a shady corner. (Of course I did not call it a "rock garden", for then I had never heard of such a thing!) So, as an adult gardener, I began experimenting.

Right in the beginning let me state, I am not referring to the conventional rock garden, which is almost invariably in full sun. In the deep South this is out of the question, unless it be a planting made up entirely of cacti and certain succulents. What I am discussing is planting among big rocks, on a cool shady hillside, where only morning sun strikes the plants. I live in the sand hills of North Louisiana, in a large natural woodland. What does Nature do in such a situation? I looked about me, and there, all over my woods, was the perfect ground-cover, *Mitchella repens.* This little plant hugs the earth, has small round leaves, starry velvety flowers, and bright-red berries. The flowers are very fragrant and in late spring fill my woods with perfume. The berries would remain till spring, if it were not for the Yankee robins that come down in hordes in winter! After they have stripped the blackgums and dogwoods, they get down on the ground and clean up the *Mitchella repens.* There are several common names, such as Partridge-berry and Turkey-berry, but Twin-berry is most fitting, as two flowers make *one* berry.

Another nice ground-cover is *Viola walteri,* which forms mats of foliage in winter, when the small, almost orbicular leaves take on attractive purplish tints. In very early spring the plants become masses of little lavender-blue flowers. This one likes a rich, rather heavy soil. The violet is a lifelong love of mine, so I have tried many species. Some cannot take my very acid, sandy soil. One of the most satisfactory is the native *V. papilionacea.* It is very hardy, the lavender-blue shades are lovely, and there is a white form that is delightful. It is florif-erous, and the flowers are held high above the leaves. One of the most distinct species is *Viola striata,* which forms wide mats, literally covered with small cream flowers all spring. My soil lacks the mineral elements it wants, but it grows luxuriantly in the beautiful Conger garden at Arcadia, in the red clay hills. Mrs. Conger brought it with her from North Alabama, loves it, and gives it lots of moisture and humus. *Viola pedata,* the shining treasure of the family, also thrives there, in the higher, well-drained part of the garden.

My next adventure was with lovely *Phlox divaricata.* Some fine blue forms occur sparingly in Louisiana. It thrives in gardens, and is even called (locally) "Louisiana Blue Phlox!" I obtained a pure white variety from Kansas, but it was never happy with me. At last, there is a form with clear pink flowers! For years, Mrs. Milton Trichel (Shreveport) collected the reddest-violet shades she could find—while I carefully selected the bluest. She planted them in a garden with rich heavy soil, with tall oaks to supply high shade and humus. After many years, this unusual woman has been rewarded with a seedling that is true pink. It has very small leaves, is low growing — seldom over eight inches — a perfect rock garden plant.

Photos by Caroline Dorman

The flowers of *Nemastylis acuta* are frosty blue.

Some forms of the narrow-leaved *Phlox pilosa* are attractive. I have found a pure white one, and several that were almost plumbago blue. This is a "toughie" that will take even Louisiana sun. Both *P. divaricata* and *P. pilosa* seed freely, and if left undisturbed soon afford sheets of bloom.

But what would rock gardens anywhere be without *Phlox subulata?* If given well-drained gravelly soil it flourishes in sun or shade, and for months is a mass of white, pink, rose and blue. In winter the bright green foliage is cheery looking.

Another mat-former which we could not be without is sedum. There are two species which grow riotously here in the South, even in the sun; the low yellow-flowered *Sedum acre,* and a tiny white-flowered one of which I am not quite sure. The minute fleshy leaves are glaucous-green, and take on pinkish tints in winter. In spring it becomes a mass of little white flowers.

On sand dunes in North Florida, I observed graceful masses of a heather-like little shrub, with tiny gray-green linear leaves, and small lavender flowers. I got cuttings, which rooted readily, and it is now one of the gems of my rock-garden. Though heath-like in appearance, it belongs to the mints. *Conradina canescens* has slender ascending branches, while *C. puberula* is more drooping and graceful. I have the latter with small white flowers. On a cliff in North Alabama, I saw a species that grew almost flat against the rocks, and it is probably *C. montana.* (The cliff was sheer, and I did not feel like hanging by my toes to get a specimen!) Give conradina deep sand and peat, and it is happy.

A perfect rock garden plant is *Meriolix melanoglottis.* It is more common in Texas, but the late Mrs. Dan Debaillon found it growing along a railroad near Lafayette, Louisiana. She gave me one plant, and all those I know of in cultivation came from this lone plant. It roots easily and grows rapidly. It is a semi-prostrate shrublet, with wiry branches clothed in linear leaves, and bearing two-inch, crepe-like, lemon-yellow flowers from April till frost. It likes good drainage, but plenty of moisture in dry weather. Farther north, top-growth will probably winter-kill, and it can be treated as a herbaceous perennial. It blooms on the current year's stems. I almost forgot the distinctive touch — it has an impudent little black "tongue"!

A more shrubby plant is my "rock garden rose", a native. Though it has lovely pink flowers and big glossy red hips, I maintain it is *not R. carolina.* It begins blooming when six inches high, and never attains a height of more than two feet, with many horizontal branches. It likes dry heavy soil.

Between rocks near the top, that jewel, *Iris verna,* blooms happily. I give it iron gravel mixed with humus. Lower down, little creeping *I. cristata* forms dainty mats. Another charmer of springtime is the exquisite bulbous irid, *Nemastylis acuta (N. geminiflora,* Nuttall). The delicate frosted blue of the petals is accented by the bright yellow anthers. Contrarily, this fragile thing asks for heavy clay! In summer another irid, *Eustylis purpurea,* bears odd violet-and-yellow flowers, like small tigridias. This one grows about eight inches tall, and wants deep sand.

About the first of November, a dwarf native aster gives the rock garden a gay sendoff for winter. Dr. Small calls it *Ionactis linearifolium,* and truly it is a different plant from *Aster linearifolius,* which I found in North Alabama. Ionactis is only about half as tall, with much narrower leaves — a finer rock-garden plant. The clustered flowers are clear lavender with bright yellow centers. It likes a well-drained clay soil.

A low shrub of the sand hills resembles heather, but belongs to the Buckwheat Family. It has tiny linear leaves, and during the hot days of August, suddenly bursts into snowy masses of bloom. The delicate sprays of tiny flowers keep coming till frost. For rock-gardens, the plant should be cut to the ground after blooming, so that it will make many stems. It blooms on the current year's wood. This is *Polygonella americana,* and it thrives in deep sand and peat — full sun or semi-shade.

I wish that I could state just how much cold each of these plants can endure. This I can say, in 1951 the temperature went to zero here, with driving sleet

"Snowflower" would be an appropriate name for *Polygonella americana*

preceding this drop. Conradina had begun blooming and was nipped back severely. However, it soon recovered. Meriolix and polygonella came through unscathed. Of course plants native to mountainous regions can usually be grown as far north as New England.

All the plants described so far are native, but there is a shrub from the Orient that cannot be omitted. *Pieris japonica* is described as getting to be quite a shrub, but it never grows tall for me. When less than one foot, it begins hanging out its drooping sprays of delicate white flowers — the buds are pretty all winter. The small bright green leaves are attractive at all times, and the young growth comes in lovely shades of rosy amber. I give this one shade and moisture.

In the Southeastern states, God has made the rock-gardens — nothing more is needed, except protection from vandals. On mountainsides, wild hydrangea, mountain laurel, pieris and leucothoe, and low azaleas simply hug the immense boulders, while in between are massed all the lovely herbaceous things: galax and shortia, mertensia and trilliums, dicentra and asarum, and dozens of other beauties. Some of these plants I have established here. Several of the "Heart Leaves" form beautiful foliage clumps, *A. shuttleworthi,* with marbled leaves, being the most attractive. The pretty leaves of heuchera and tiarella take on soft tints of rosy-red in winter.

An eastern plant that is found occasionally in this state is *Silene virginica.* It likes the dry part of the rock garden, and nothing could be more vivid than this splash of clear red in spring. A softer color is supplied by the native *Aquilegia canadensis,* which is quite happy here.

To me, a rock garden would seem bald without ferns. My favorites are the small dainty spleenworts, low-growing woodsia, and cheilanthes. The last is downy all over, which gives it a beautiful softness. The several cheilanthes are mountain ferns, but are happy in well-drained positions between my rocks.

I love to pat various mosses into shady crevices, for with cold weather they become even more brilliant green. Sometimes I think I like my little rock-garden best of all in winter. Nearly all the plants are evergreen, and the various tints are most interesting. These are highlighted by red berries and the soft rose of tiarella leaves. Yes, a rock garden in the South can be a year-round joy.

VARIEGATED ARABIS

There is a corner of the rock garden at Cornell University where few plants other than *Arabis albida* prosper, so that this rather weedy rock plant has been allowed to self-sow freely. Last summer it was noticed that a single young rosette bore white-margined leaves, on a plant with otherwise normal foliage. Careful watch was kept, and as soon as the rosette was large enough it was removed to the cutting box at the Conservatory, where it promptly rooted and has since grown vigorously. As the plant matures, the amount of white on the leaves has often increased until it covers half of many leaves. One or two shoots have reverted to normal grey-green foliage, but apparently the "sport" is fairly dependable, and is well worth propagating.

I cannot recall ever seeing a variegated arabis listed in catalogs, nor is one mentioned by either Farrer or Mansfield. Bailey's CYCLOPEDIA lists *A. albida* var. *variegata,* with leaves striped with yellowish white, which may possibly be the same thing, but the Cornell plant is bordered, not striped, and the white is almost pure, by no means yellowish. CRW

IDEAS FOR THE NEW ROCK GARDEN

MADALENE MODIC, SEWICKLEY, PA.

Perhaps others have had the same problem as I, of wondering what to do with the big vacant spots in a new rock garden, waiting till new plants have sprawled out over the stones, or just until they have reached maturity. I filled in with annuals and some of my house plants. I won much praise and avoided that criticism of, "It is so common". More often I was asked, "Oh, what is that"?

Among the annuals I used was *Abronia umbellata.* I started my first packet in seed pans in the house, but it does as well if sown, when the ground warms up, in the place where it is to grow. I put some beside my *Nierembergia rivularis,* where it made a very pretty picture creeping all around the white cups of the nierembergia.

There are three little annuals very much alike in that they have yellow flowers and ferny foliage, the Dahlborg daisy, *Gamolepsis tagetes,* and *Cotula barbata.* The first two are prettier in clumps than alone. *Cotula barbata,* sometimes called brass buttons, is like a miniature shrub; it is elusive as an elf placed all alone beside a stone or in some crevice. The flowers are round and tight, like little buttons.

The elusive pimpernel (*Anagallis*) is sure to bring praise if placed in full sun in clumps of three or six. If you need a spot of blue a little different, for an eerie effect try the California bluebells, *Phacelia campanularia:* they seem to dance in every breeze.

One must have the little pixie violas. They seem like annuals as they bloom the first year from seed and stay with one, as they self-sow so easily. The little black imp is the sauciest of the group; it seems cut out of black velvet, with one yellow eye for magic.

There is sanvitalia, the creeping zinnia, which some might call common. Who can push it aside by saying, "It is too common", when it performs so beautifully on poor dry soil. It asks for so little and gives so much!

And now for the raid on my house plants. *Parochetus communis* is a little gem; once you have it, I am sure that you will do as I do: if I lose it, I buy some more seed. It is easy, but give it a secluded place where it can keep cool, although it loves the morning sun. The pretty blue flowers seem to wink at one through the little shamrock leaves. Take part if not all back in the house before frost.

Spanish shawl (*Schizocentron elegans*) is another precious gem that does well in the rock garden. It needs shade during the hottest part of the day, and sends out little runners that never go far. The delicate little flowers are wine red, and foliage and stems take on a red tinge that gives the plant an added grace.

The lavender weeping lantana is a glorious sight, and it blooms and blooms. It is nice beside santolina or hypericums. Some of the mesembryanthemums do very nicely in the rock garden, too. I put *M. multiradiatum,* whose blossoms are dainty pink daisies, in full sun. I do not know the name of my other mesembryanthemum, but it likes some shade, will even grow in half shade, and its flowers are like tiny pink dewdrops.

* * * *

Geranium razuhillcaense. This tight alpine cushion of silvery overlapping-lobed foliage, and almost or quite sessile flowers, is named after a Peruvian mountain, and not according to any exclamation bursting from its finder's lips.
— Clay

THE DWARF IRIS SOCIETY

WALTER WELCH, MIDDLEBURY, INDIANA

The fifth anniversary of the Dwarf Iris Society was celebrated in 1954. We can look back with pride and satisfaction on the progress we have achieved in the development of dwarf iris, and the increasing interest in, and better recognition of, this class of iris. We have established ourselves as the representative of the dwarf iris interest throughout all America, and in Canada, England, Germany, Austria, Australia and New Zealand. We have established relations of mutual affiliation with the Kent Group of England, the Australian Iris Society, and the New Zealand Iris Society, and are working with the dwarf iris leadership in these other countries.

At the moment our membership is well over the 350 mark, not a large membership compared with some other flower organizations, but it is a steady and healthfully permanent membership. We have no desire for a group of dues-paying members and we do not solicit members. It is our good fortune that practically all our members are active in some capacity for the advancement of our program, and are not merely going along for the ride. We are still maintaining our policy of no fixed dues, but depend on the generosity of our members who wish to contribute to the material cost of maintaining our organization.

It has always been difficult for me to understand why the dwarf iris have been so neglected as a rock garden subject, when they are so indispensable for early bloom, are so dainty and charming even as a plant during the entire summer, and hardy beyond any question. But I suppose it is because of the lack of development and the restricted color range in the past.

The older dwarfs were mostly purples and yellows, and of just one type, forms and derivatives of *Iris chamaeiris*. We have developed the dwarfs by using new species, particularly *I. pumila,* which has extended the season of bloom by two to three weeks and added many new colors and patterns. At the present time we have clear sky blues, rich orange chrome, deep violets, amoenas, neglectas, variegatas, little Pinnacles, pure whites, blacks, orchid and lavender, blends, mulberry, browns and tans, good approaches to reds and pinks, and that rare color green.

The general public has never yet had the opportunity to see these new *I. pumila* forms, as they were never previously available in this country. They bloom from two to three weeks earlier than the old dwarfs from *I. chamaeiris;* they are smaller, around 4½ inches high, highly floriferous and with strong fragrance.

We are still in the early phases of development of dwarf iris. Up to now we have only partially explored the pumilas, and there are still a number of other species remaining to be utilised. They are a very complex group of plants genetically, and the possibilities of hybrid combinations have yet to be investigated.

Up to the present only the members of the Dwarf Iris Society have had access to the new varieties, for they are still scarce. When the general gardening public has the opportunity to see and to have these spectacular new developments, dwarf iris are sure to receive the enthusiastic acceptance for rock gardening which they rightfully deserve.

Lithospermum graminifolium

Photos by Aymon Correvon

Lithospermum x *intermedium*

MOLTKIA OR LITHOSPERMUM

AYMON CORREVON, Geneva, Switzerland

ON THE HOTTEST DAY OF MY LIFE, I collected with my grandfather, *Lithospermum (Moltkia) graminifolium,* on Monte Summano, east of the Lake of Garda, and north of the Italian town of Vicenza. This was in the summer of 1930, and I remember that we found fields of it, which made us, despite the heat, quite exuberant, especially when we added to our collection the beautiful *Lilium carniolicum,* the lovely pink *Linum viscosum,* and the rare black-garnet *Veratrum nigrum.* I also remember trenches and barbed wires left from the 1914-1918 war, on which my grandfather tore eight inches of his very new mountain trousers, and this not at all for purposes of aeration! It was also on that day that, once in the plain, I absorbed the largest quantity I ever had, of ice cream, sherbets, cassata, etc; though I usually do not particularly like them, I was not sick, thanks to immediate evaporation. The same evening we had the misfortune to miss a performance of "Rigoletto" in the old Roman arena of Verona, as not a single seat was left, but we were comforted as we could have the trousers mended.

Though often confused, there are no particular difficulties in distinguishing *Lithospermum graminifolium* from *L. petraeum* or from their hybrid, *L. x. intermedium,* especially if they are all side by side. The general aspect is of course, similar, with terminal clusters of drooping little blue flowers and narrow leaves. *L. petraeum* has the broadest (3 or 4 millimeters) and shortest leaves, about 1 inch long, silky white below. *L. graminifolium,* as the name suggests, has the longest and the narrowest leaves, which can reach almost four inches, but not exceeding 2 millimeters in breadth, not so silky below, but with a depressed line well marked in the middle and along the upper side. *L. x. intermedium* is between them in leaves, also in size of the flowers; however it is a little more on the *L. graminifolium* side, so it is these two which are most likely to be confused. A very distinct character is that the leaves of *L. graminifolium* are almost all hanging down and parallel, as if they had been combed, whilst those of *L. x. intermedium* are more erect and diffused. I also find that here the latter sets seed much more freely than *L. graminifolium.* The photographs, unfortunately not of plants in flower, show clearly the difference between the two.

I have not been able to trace the origin of *L. x. intermedium,* but it is most probably a garden hybrid, as the parents do not live in the same countries: *L. graminifolium* in the Alps of north Italy, and *L. petraeum* in Greece, according to Farrer and the RHS Dictionary of Gardening, and also Dalmatia, Bosnia, Montenegro, in Boissier's Flora Orientalis.

All these plants are easy to grow in a sunny position or in a dry wall, in a good loam, but they like lime I should say. They are very useful and attractive for late flowering in the rock garden, at the end of May or June, when their masses of blue flowers make a quite pretty effect. They are not difficult to propagate from seeds, when fresh ones are available, or from summer cuttings from woody or soft branches. However, they fear an excess of moisture. Layering might perhaps also be tried, but I have never done so. I know that very old plants, very shrubby, about two feet across, have picked up very well, though I had to pull them out of an old wall, and though important parts of the roots were broken, so that it was almost like a plant division. This was done in the middle of November. I wish success to anyone who would attempt the culture of these worthy plants.

THE IDENTITY OF *CYANANTHUS MICROPHYLLUS*

DR. GEORGE H. M. LAWRENCE
Director, Bailey Hortorium, Cornell University

SPECIES OF CYANANTHUS, members of the Campanulaceae and sometimes known as trailing bellflowers, are about 20 in number and are native in Nepal, Tibet, and western China and Bhutan. Four of them sometimes grown as rock garden subjects are *C. lobatus, C. longiflorus, C. integer,* and *C. microphyllus.* Of these, the last two are the more common with us and are species whose identities are somewhat confused.

Cyanthus integer is native to the Kumaon Hills of northern India. The plants produce slender trailing stems about a foot long, with oblong leaves wedge-shaped at the base, unlobed, and with both surfaces silvery-hairy. The flowers have a tube that is approximately funnel-form, with flaring narrowly oblong lobes. The mouth or throat of the corolla-tube is weakly and inconspicuously hairy. This is a plant rarely cultivated, and perhaps not available in this country or Great Britain. It was shown by Francis Ballard of Kew, in an account in Curtis' Botanical Magazine 162: t.9598, 1940 that this species had been misidentified by most persons and that material so listed in the British trade was *C. microphyllus.*

The Nepal species, *Cyanathus microphyllus,* is similar in some respects to the above, but differs in the leaves being silvery-hairy only on the lower surface and in the upper leaves having distinctly heart-shaped bases. The flowers differ in the corolla-tube being more cylindrical and having its throat nearly filled with an abundance of beard-like white hairs.

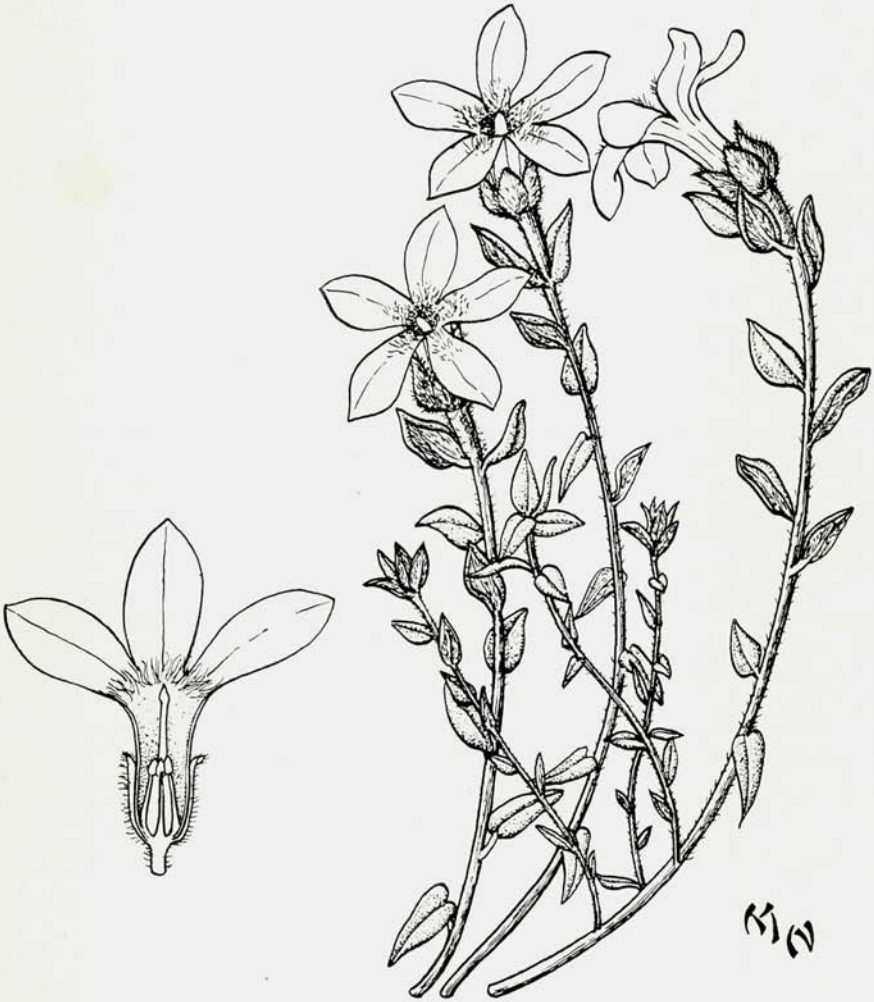
These characters, distinctive of *C. microphyllus,* are those found in cultivated material received as *C. integer* at the Bailey Hortorium, some of which is known to have come to gardens and nurseries in the United States from sources in British Columbia and Great Britain. Persons growing Cyananthus are asked to check material carried under either of these names and to advise me if any labelled as *C. integer* agrees with the descripton of that species. It appears that true *Cyananthus integer* may not be cultivated in this country.

CYANANTHUS IN THE GARDEN

CRW

THE GENUS CYANANTHUS seems to be little known in this country, and the reasons for that are not hard to find. Its range, largely through the monsoon region of the southeastern Himalaya and Burma, is that of plants which are as a rule reluctant or entirely intractable in the climate of the eastern United States, so that British accounts of the plants being too vigorous to permit them to be grown in choice company only lead one to feel that "it can't happen here."

However, when seeds came my way, I was only too happy to try them. The first received was *Cyananthus lobatus insignis,* often known as "Kingdon Ward's variety". This grew successfully in pots for a number of years, but I feared to risk it in the open. Then some seeds of *C. microphyllus,* received under the usual misnomer of *C. integer,* germinated so freely that I risked a few of them in the rock garden. The site chosen is a depression into which all surplus water drains, so that while never boggy, it is the dampest place in the garden, even though exposed to full sun most of the day. A considerable amount of peat was mixed with the natural soil before planting, and three little plants were set out there. They consisted of only a single trailing stem each, two or three inches long, so



Mitsu Nakayama, after Curtis' Bot. Mag.

Cyananthus microphyllus, approximately life-size

frail looking that survival seemed impossible. They were still there the following spring, and soon started to feel at home. Now, after about four years, they form a solid mat a foot and a half across of intertwined stems.

Dr. Lawrence has described and illustrated the flowers, so that I shall not attempt to do so, merely to remark that the first flowers, from the tips of the main stems, are fully an inch across, while those from side shoots, produced later

in the season, are somewhat smaller. The flowering season extends from early July until October, perhaps the longest of any plant in the garden, and while there is never a profuse display, it is only rarely that no flowers are visible. The color is a rich violet blue, which in the past season clashed violently with the intense light blue of some hybrid seedlings of *Gentiana farreri* which are equally at home in this low peaty bed.

When *C. microphyllus* proved to be happy, I ventured to put my last surviving *C. lobatus insignis,* then well over ten years old, in the same bed. It did well that year, but failed to return the following spring, and I do not know whether old age or climate was responsible. Again I have young seedlings of *C. lobatus,* and one of them, put while still very small in this same bed, seems to be prospering, but not until spring shall I know whether it is going to be successful there. I grew, a couple of years ago, one other species, *C. inflatus.* This proved to be a biennial, rambling, vine-like, with flowers only half an inch across, and I decided it was not worth retaining.

The principal difficulty in raising this genus seems to be in the early stages: seeds do not always germinate freely, and the babies are difficult to keep through the first winter. If they survive that, all is well. Cuttings root fairly well, but are even more difficult to winter. I have found that by taking a considerable length of stem of *C. microphyllus,* and laying that flat in sand, rather than by taking individual cuttings of the side shoots, I obtain much more husky plants, and it may be that these will winter better.

LETTERS TO THE EDITOR

In my letter concerning a case of wild flower vandalism published in the January BULLETIN, I failed to point out that those responsible came from a hundred miles away. Local New Jersey plantsmen such as the Pearce Seed Co. and David E. Burns raise the pine barren gentian from seed, and as seedlings are more likely to grow in a new situation than collected plants are, they contribute to the conservation of this beautiful species.

EDGAR T. WHERRY, *Philadelphia.*

The stand of pine barren gentians at Atsion was vandalized about five years ago, every plant dug out. Looking at it this past summer, I was delighted to see that new plants had grown, and the best stand in the world of that species apparently restored to something approaching its former beauty. No doubt the same fiend returned to repeat his plundering.

The true culprits are the amateurs who buy such plants knowing that they can be supplied only by collectors. Although it is possible to raise the pine barren gentian from seed, the method is too slow for a dealer to make money. Therefore if the amateur is not willing to grow his own seedlings, he is guilty in buying them, and should not plant the species.

The case of the queen's slipper *(Cypripedium spectabile* or *reginae)* is even worse. There is no way to propagate it commercially. Every plant sold is collected, and the species has been virtually exterminated in our region. By whom? By our wealthy friends who place orders for them, knowing that wild stands must be destroyed to fill these orders. The mere fact that the death spade was wielded by hired hands does not excuse the buyer. At least 99.9% of the plants collected are marked for plant murder, because the species is extremely difficult in cultivation.

G. G. NEARING, *Ramsey, N. J.*

THE DESTRUCTION OF WILD PLANTS

RAE S. BERRY, PORTLAND, OREGON

I fully sympathize with Dr. Wherry in his condemnation of plant vandalism, but I have a few tales of my own to tell.

Many years ago, while on a plant collecting trip to southern Oregon with Dr. and Mrs. Gabrielson, we saw a most beautiful double white trillium, with very large fully double flowers, as fragrant as a rose. Alas, it was growing inside a fence within yards of the highway. We looked, we longed, but we passed on; a few days later, on the way home, we passed the same spot: the field had been plowed, the plant was gone.

On a trip up the Columbia Highway, we saw a lovely sight, a huge field filled with *Fritillaria pudica.* The next time we passed, the field had been plowed.

Down the valley there was a so-called mountain, really little more than a hill, where *Synthyris sweetzeri* grew in profusion; not only that, but we found precious white, pink, and rose-colored forms. We were very careful just to take a plant here and there, leaving plenty to self-sow. A couple of years later we found that the trees had all been felled, and the undergrowth destroyed, as a bulldozer had gone over everything.

Then, on another trip to southern Oregon, we came on an enchanting valley filled with a variety of plants such as I have seldom seen in such profusion; on a later trip we found a grey slag heap covering everything, the result of hydraulic mining.

And now, what are we to look forward to in our precious Wallowa Mountains? A great many uranium claims have been staked out—where is lovely and rare *Primula cusickiana* going? Were anyone to dig up every plant in sight—a thing no right-minded collector would ever do—one could hardly blame him. And what of that huge patch of *Mertensia pulchella,* where it seemed as if a bit of sky had covered the earth?

The last two tragedies are the result of road-building on the Columbia Highway. Mitchell Point was long known for the Columbia Gorge form of *Douglasia laevigata.* There, on that huge steep cliff, in spring those small evergreen rosettes erupted with pink stars. Always, we felt happy when we looked at it, knowing that it could not be collected in such an impregnable spot. The cliff has now been demolished as a result of road relocation.

And once, as I was driving farther up the road, I saw a tiny white flower by the roadside. I stopped to investigate, and there was a lovely dodecatheon, with large white flowers, very dwarf. I could not imagine where it came from, but the cliffs were not very steep or high, so I climbed up; there were thousands of those plants, white, pink, rose, very dwarf, and all having large flowers. It always was a puzzle to me, for they were growing in a spot that is a bake-oven in summer, with hot drying winds, and no moisture for months. That cliff, too, is gone: the road passes right through it.

I draw no moral—I just write what happened.

* * * *

There is one delicious joy that accompanies the gardener along his primrose path . . . And that is the joy of giving. . . . There are few greater pleasures in life than giving pleasure with a plant; or getting pleasure again with a plant. And certainly there is none more bland and blameless. — Farrer

PENSTEMONS SUITABLE FOR THE ROCK GARDEN

RALPH W. BENNETT, *Arlington, Virginia*

IN SELECTING THE PERSON to write this article, the Editor purposely passed by more gifted writers and chose me because he considered my climate the most difficult in the East for the western penstemons suitable to rock gardens. Therefore, he reasoned, if I said a species could be grown without too much difficulty, anybody could grow it. He did not want the article written by a person in the Northeast, where all these species grow easily, because then it would be almost certain that some species would be recommended as easy which would prove difficult in other climatic zones.

The Editor asked me to write on "Dwarf Penstemons for the Rock Garden." But in a genus of 230 species, varying from one inch to six feet in height, who can say definitely what "dwarf" means? Three inches? Twelve inches? Fifteen inches? In the Boyce Thompson Memorial Rock Garden, which is 300 feet long, surely "dwarf" would have a different height limit than in Mrs. Regan's garden, which she described as miniature. So we compromised on the term "reasonably dwarf," which I take to mean of such height as to appear suitable to the garden in question. Therefore I will write for all rock gardens, large and small, and include a few species which I believe will be accepted in a garden thirty feet long or longer, which the readers with smaller gardens may skip over.

All evaluations of plants are read in the light of one's own likes and dislikes. There are two extremes in likes and dislikes among gardeners. At one end is the group typified by Mr. Ripley, who told me, "I don't like any plant that I can see the flowers of", or perhaps typified better by people who prefer "cute" plants like draba to "showy" plants like dianthus. At the other end is the group who, like myself, want their plants to give a good showing of color. People are seldom consistent in their adherence to one extreme or the other (for instance, I like the trailing arbutus, which could hardly be called showy), but their preference is bound to exert a strong influence on their evaluation of plants.

Knowing in advance that this article is written by a person who likes plants with colorful flowers, those of you who are of the opposite school can substitute some term of your own where I describe flowers as "pale" or "washy" or say that a plant does not make enough display to be worth growing. I am going to plead for consistency, however. If you don't like strongly colored penstemons, I am going to ask, "Then how can you like gentians and hypericums?"

In Penstemon the very acme of dwarfness is found in Section Ericopsis, in such species as *P. abietinus* and *P. caespitosus*. These make mats which hug the ground closely, seldom rising over one inch, with green foliage like little fir needles and flowers in tones of blue. These are growing well in Mr. Ripley's garden (New York) in very lean, gravelly soil. I never saw them in any other garden in the East, and never dared to try them myself. They seldom make compact mats, and seldom have more than a scattering of flowers in cultivation. So here I will make my first prejudiced evaluation and say that I can't understand why anyone but a collector would want to take up space with them in a rock garden of limited size when he could grow things like *Dianthus deltoides*, a prostrate hypericum, or a prostrate veronica in that space and get both a solid mat and a floriferous display. But Dr. Worth, for one, thinks just the opposite.

In this same Section Ericopsis is another little plant with a big name—*P. laricifolius* ssp. *exilifolius*. (Nobody ever uses more than the last word of these

combinations in informal discussion.) *P. exilifolius* is a really retiring one, a tiny tuffet or loose mat of needlelike green leaves, and a few 6-inch erect stems of tiny white flowers. To be seen among other plants it would have to be pointed out; but I know one perfectly sane woman who likes colorful flowers and yet raves over this one. I think gravel would suit it in the East.

The easy one in Ericopsis is that which everyone calls "coloradoensis"—actually *P. linarioides* ssp. *coloradoensis*. This is quite common in cultivation. Its wide-spreading dense mats (their denseness being an exception to the rule) of grayish-green foliage, rising several inches above the ground, are its principal attraction. Thus it is useful for a contrast with dark green creepers. The very pale bluish-lavender flowers, quite plentifully borne, are admired by the devotees of such colors and criticized by people like me. This one seems to be willing to grow without any trouble in most any rock garden situation or climatic region. Nearly all rock gardens of Penstemon Society members have it, and their gardens cover about the whole gamut of conditions.

P. crandallii is similar in habit of growth to *P. coloradoensis,* but has green leaves instead of gray. Its flowers are pale blue. Most people apparently prefer the gray leaves, because I have never seen this one being grown in the East, though I know that Dr. Worth has it. It is said to be easy in rock garden soil anywhere. Its subspecies *P. c.* ssp. *procumbens* makes a more compact mat than the typical subspecies.

Frankly, I cannot get excited over the penstemons in Section Ericopsis; but, equally frankly, I confess that there are rock gardeners who love them. These are desert plants, and therefore our best bet is to put them in the leanest and most porous soil mixture available, perhaps even in pure gravel, and in full sun. I have not succeeded in growing these species in northern Virginia yet, but think that is because I have had them in too rich soil.

In that section of Penstemon known as Subgenus Dasanthera, called by most gardeners "the shrubby penstemons," there are two prostrate creepers that should be in all eastern rock gardens. These are *P. rupicola,* with gray, matte-surfaced leaves and bright rosy-red flowers; and *P. menziesii,* with glossy, dark green leaves and blue flowers. The foliage is handsome enough to be a sufficient reward for the space occupied. The flowers, if and when they appear, are an added bonus. In these the mat is usually solid, not open. In all states north of Virginia these species are perfectly happy in very gravelly soil mixed with peat or pine needles. They become more temperamental as we move southward, until, when we come to Virginia, I doubt if they will ever be more than precious little curiosities. But I have just started growing them in gravel, and may be pleasantly surprised. In New York and New England these make fine specimen plants, either to occupy the center of a flat pocket or to trail over rocks.

Those fortunate rock gardeners who can grow the shrubby penstemons well dote on *P. davidsonii,* which is a tiny-leaved subspecies of *P. menziesii.* It hugs the ground with a solid mat of very tiny dark green leaves, and bears huge purple trumpets, in theory, but, alas, not often in practice, in the East.

Another shrubby species, *P. ellipticus,* is not a prostrate creeper, but it is only a few inches tall and looks as if it would make a compact mat or clump. Its dull green leaves and purple flowers should make it acceptable as a plant to trail over rocks. It is too new to cultivation to predict its adaptability, but I think it will do well where the others will.

The taller species in Dasanthera, with foliage masses about 8 inches high, and flower stems rising a little higher, are very useful in the West, somewhat useful in the East, as rock garden plants. Of these, *P. fruticosus* and *P. cardwellii* are easy to keep alive in gravelly soil, even in Virginia; but their flower display,

of large purple bells, is better the farther north they are grown. In New York and New England they do as well as in their native homes. Their leaves are a dull plain or bluish green. *P. newberryi* is of similar habit, but with glossy green leaves and red flowers.

All these species in Dasanthera will live almost indefinitely where they are happy, except *P. newberryi,* which shows a tendency to die after blooming. They can be kept going, however, by cuttings, which root easily.

The taller shrubby species, *PP. fruticosus, cardwellii,* and *newberryi,* almost never make compact clumps in the East. Unkind souls might describe them as "straggly" or "ragged", while people of more artistic temperament might call them "grotesque" and prize them for use in places where they would put gnarled conifers. Their lack of compactness prevents me from recommending them as specimen plants. Instead, I would advise mixing them in with other plants of comparable height, or planting them on promontories where they can trail down.

The species names in Dasanthera have been badly mixed up in the nursery trade. Readers will no doubt miss some of their favorites in my remarks. The chances are that they are included in one of the species I have mentioned, either as a subspecies or a synonym.

There are selected named varieties of these species with superior flower colors or a more pleasing habit of growth being offered by nurseries, which will be enjoyed by gardeners in the northern part of the eastern states. In the southern part we are thankful if we can grow them at all, without worrying about superior varieties.

Everyone who has seen *P. pinifolius* likes it. This is a spreading, open, irregular (ragged?) clump of countless slender, upright stems, 6 or 8 inches high, clothed densely with dull dark green needle-like leaves. Its effect is somewhat that of a *Calluna vulgaris* except that the stems are individual and not matted. The scarlet flowers may or may not appear, apparently depending on whim. When they do, they are seldom plentiful in the East. Even so, it seems that every member of the Penstemon Society wants to get hold of this. It will grow anywhere with the greatest of ease, and is very long lived.

All the above species are evergreen and more or less woody. Most of the "herbaceous" species have rosettes of basal leaves which remain not only alive, but luscious-looking, all winter. Some stay a fresh green, while others turn red, purple, or violet. In fact, one thing about penstemons that endears them to "pent fans" is their beautiful winter rosettes, so fresh-looking among the sad-looking remains of other plants that they are an inspiration and a joy to the impressionable gardener while waiting impatiently for spring to come.

One dwarf penstemon that I see almost everywhere in rock gardens is "pygmaeus," a distinct variant form of *P. hirsutus.* It makes solid mats of dull green leaves about a foot across, which turn red in winter, and in spring send out many short, nearly horizontal stems of pale lavender bells. The flower color is too "washy" to appeal to me, but I never can get anyone to agree with me. This one will grow anywhere, but is likely to die suddenly and capriciously. It can be kept there by starting new plants from divisions before the old ones decide to leave.

P. jamesii is another cute one with subdued flower color. Its flat rosette is grayish and its fat bells are pale lavender, on stems about 8 inches high, one or several to the plant. It seems to be easy and long lived in any kind of rock garden location, even in the rainy climate of Virginia.

P. jamesii belongs to a large group of Penstemons known as Section Aurator. Only a few of these have found their way into cultivation. They are mostly desert plants, likely to be difficult and short lived. My reason for saying this

is that a number of rare species were collected by Amel Priest and Dr. Worth in 1947 and widely distributed, but I have never seen any of them still alive in gardens in any of my recent trips around the country. *P. eriantherus* is lovely in Wyoming gardens, and possibly all through the prairie belt, with its 6-inch spikes of densely crowded, rich purple, fat bells. But in the rest of the country it is too difficult to be worth growing. It always dies immediately after blooming, without making seeds. I am afraid the same will prove true of the low-growing, alpine-appearing desert relatives of *P. eriantherus*. *P. cobaea,* a fairly easy one, is too tall for rock gardens.

P. albertinus, common in Glacier Park near Logan Pass, makes a pretty addition to any rock garden, though temperamental. Its glossy dark green rosette sends up many stiff 8-inch stems of bright blue flowers — a delight to the eye. It likes a gravelly soil and sun. This is not a long-lived species, but comes quite easily from seed. Its close relative, *P. virens,* is quite similar, but its flowers are apt to become a muddy purple in lowland gardens, whereas those of *P. albertinus* retain their alpine brilliance. I recommend *P. albertinus* for rock gardens everywhere.

No one would ever think of growing ordinary *P. hirsutus* in a rock garden. Its flowers are too dingy and its stems too tall. But some years ago Mrs. J. Norman Henry introduced some choice selections of this species under the name of "Gladwyne varieties." In these not only is the dingy flower color replaced by brilliant violet, purple, or rose-pink, but the plants are low and compact. Each new generation in my garden is becoming more compact and with shorter stems, while losing nothing in brilliance of color or amount of bloom. I believe that these new forms are within the height range of rock garden plants. Some this year were only 8 inches high. Each plant bears an unbelievable number of stems, and each stem is loaded with flowers. During winter the low clumps of massed leaves turn red, wine, or purple, and remain fresh-looking no matter how severe the weather. The plants will grow anywhere, but prefer gravelly soil. Some will die each year, so it is wise to keep dividing them and also to keep planting seeds. Seeds from my lowest plants, obtainable through the Penstemon Society exchange, will produce a large proportion of dwarf plants.

The group of penstemons that we call the Proceri contain a few species worth noting for eastern rock gardens. *P. procerus* itself in my garden makes a low clump of oval green leaves, from which rise many stiff, slender stems about 12 inches high. Each stem bears a few mintlike clusters of tiny, bright blue flowers. It is a cute little plant, even if not showy; and I am inconsistent enough to like it. Its relative, *P. cinicola,* has needlelike leaves and an even neater habit of growth, but its flowers are apt to become a washed-out purple in cultivation, even in the West. *P. tolmiei,* the lowest of all the Proceri, is popular in western rock gardens, but so far has not prospered in the East. *P. confertus* and *P. flavescens* make handsome mats of foliage, but their flowers are unattractive to most people. They vary from cream to yellowish white, but are apt to look "dirty" because of old flowers turning brown among the new ones. All the Proceri can take considerable moisture and shade, but do very well in the usual gravelly soil of a rock garden. They are inherently long lived.

The Great Plains give us two species, *P. nitidus* and *P. angustifoluis,* which are so much alike that they can be considered together. They have small rosettes of gray leaves, 6-8 inch stiff, erect stems, and flat-faced flowers in dense spikes. In *P. nitidus* these are usually a lovely sky blue, which never fails to bring forth Farrar-like rhapsodies from feminine beholders. But it usually is short-lived. *P. angustifolius* is more likely to be purple in the East, but not a muddy color. It is inherently longer-lived. I have had it live four years in my garden. These species, though native to the alkaline prairies, will grow in any ordinary rock

garden soil. They should be kept coming from seed, which is rather tricky but far from impossible.

Now I leave the small rock gardens and consider the large ones. Although I doubt if people with small rock gardens would ever admit any of the Glabri clan of penstemons into their gardens, the fact that such unchallenged true rock gardeners as Dorothy Stillwell, Angie Pease, Grace Babb, Ted Knotts, and Professor Hamblin are growing them without any apologies in their rock gardens makes me bold enough to recommend them for all but the smallest gardens.

P. glaber itself is the one I would start with, because its stems are ascending rather than erect, and seldom rise more than 15 inches. The many graceful bow-shaped stems radiate from the center to form a round clump, open in the center. Each stem bears healthy-looking dark green leaves and dense spikes of large bells, which vary from the deepest blue to watery blue. Even the most watery blue ones in my garden make the ladies exclaim with delight while I am in the act of apologizing for them. The depth of color in this section of penstemons is directly proportional to the relative amount of sunny to cloudy days during the blooming season. (This does not apply to other penstemon groups.) *P. glaber* likes gravelly soil and full sun. It is quite long-lived. A good specimen is so breathtaking that it will make all visitors to the garden gasp and ask for seeds. The seeds are borne heavily and germinate easily.

In my own rock garden I make much use of a penstemon of mysterious origin unofficially called Flathead Lake, for which I have proposed the name *P. johnsoniae,* because it came to us through Mrs. Anna Johnson. In the East its stems are "floppy," but by twisting this word a little we can make it mean that the plants are good for elevated places in a rockery where the stems can hang down. The flowers are coral-red. It is an extremely easy variety and very floriferous, but likely to die out suddenly. It is no trouble at all to keep lots of new ones coming from seeds or divisions.

In a really large rock garden, like those of Mr. Ripley and Prof. Hamblin, *P. canescens* would not be out of proportion and would certainly be enjoyed. Its stems are curvy, not stiff, and radiate outward and upward to form an open clump from 12 to 24 inches across and usually about 15 inches high. Each stem is loaded with spikes of rich crimson bells. And, believe it or not, it blooms for two solid months. It is necessary to get seeds of improved varieties, because the wild ones are often dingy. In my garden, because of a continuous process of taking seeds from only the best plants, this is getting better every year. The species is short-lived, but leaves lots of self-sown descendants to carry on. It will grow anywhere.

The penstemon blooming season is May to June in the latitude of Virginia, June to July in Maine. Most species bloom about a month.

Penstemon is a low-fertility genus. The best ones I have seen in the East have been in the leanest kinds of soil, usually gravel mixed with peat or pine needles or compost. I think almost every failure with penstemons has been due to growing them in too rich soil or too closely crowded by other plants. They like to have a place to themselves, and usually do their best to deserve it.

In spite of endless arguments about soil reaction for penstemons, I am convinced from hundreds of observations that all but a very few of the species laugh at us humans for fussing about this point. The shrubbies quite definitely like a strongly acid soil, but all the others that will grow at all in the East will grow in mildly acid, neutral, or mildly alkaline soils with equal relish.

This article has included only species of penstemons that are now in cultivation and available. The easiest way to get the species mentioned above is to join the American Penstemon Society, the dues in which are the ridiculous sum of one dollar a year, and get in on the annual seed exchange.

THE ALPINE FOREST HEATH

HELEN C. SCORGIE, HARVARD, MASS.

What is more cheering in the wintry days than bright flowers in the otherwise quiescent garden? They break the dreary monotony of winter and make its days seem to pass more quickly. Early winter may still show a few tardy blossoms on the late-blooming plants, or a midwinter thaw may persuade an early spring flower that "the time of the singing of the birds is come." But more than these are needed in the bleak months to make the garden look alive; more, too, than the pallid Christmas roses that look as if carved from the snow itself. The lively pink of the alpine forest heath brings warmth and freshness into the chill and dreary days.

Although the different clones of *Erica carnea* first open their flowers over a period from October to March, buds on all of them appear at about the same time in midsummer. September and October see these buds swell and become colorful as if all must burst into bloom before Indian Summer has arrived. Most conspicuous are the chartreuse buds of 'Springwood White' that scintillate above the shining leaves. The flowers of this variety are larger than those of any of the others, giving the unopened bells a false appearance of being more advanced than the rest, whereas they are among the latest to open.

'Ruby Glow', on the other hand, hardly shows the developing flowers, so closely do they match the leaves in color. Between these two, the variation is as wide as that of the flowers later.

In November, 'King George' is first to open its gay bells. It is a neat plant, making a low, symmetrical, oval mound, each year travelling a little farther over the granite outcrops. The bright flowers of the palest shade of imperial purple form a spike on the last year's growth. It is prolific in bloom, excelling in my garden all the others of its free-flowering relatives. These radiant flowers are Christmas cheer indeed, whether the season be white or the ground bare and dun. Snow will cover the plant at times in the winter, but with each thaw, and later, in welcome spring, the brightness of the flowers is there to warm the heart. And it is still blooming merrily in March when the *E. carnea* show is at its height, with all the clones in bloom. Even through April, the faded flowers retain their pinkness, giving, to the casual observer, the appearance of continuing bloom.

About two weeks after 'King George' has started to bloom, 'Snow Queen' begins its season. While it is welcome for the variety it gives to the heath planting, being the only white blooming at this time, it is a far less attractive plant. The flowers are smaller and the growth more open, while the white flowers lack the warmth so pleasant in the cold days.

More pleasing is 'Queen Mary,' a charming counterpart of 'King George,' but several tones lighter. The color, though paler, is nonetheless a clear and vivid hue. It is out before Christmas.

When the January thaws beguile us into thinking that "the winter is past," buds on 'Ruby Gem' swell rapidly, and soon its jewelled bells are fully opened. This is the dwarfest of the alpine heaths, or at least its branches lie flat on the ground, giving the appearance of lowness. Its bells, when they first open, are surprisingly pale, so that its name may seem inappropriate. But each sunny day sees a deepening of the color and a brightening lustre till the deep red foliage is aglow with the hundreds of brilliant, bright lights. No other *E. carnea* matches its burning beauty.

'Vivaldi' is lovely and of much the same type, but it is "not quite" in every particular. It has the same dwarf habit and red foliage but flowers

later in the winter. 'Gracilis' is another winter bloomer. Its flowers are a rosy pink.

Last of the alpine heaths in my garden are the two 'Springwood' varieties. These are fast growers and quickly form mats of vivid green from which sturdy stalks, a few inches high, are loaded from August to February with numerous large buds. In the white form, the lettuce-green buds are particularly pleasing.

This white clon was found in Italy by a Scottish lady and sent to Kew for identification. There it was grown under the name 'Springwood variety,' after the garden of its collector. Later a seedling appeared in the garden at Springwood, growing close to a planting of the white heath, very like it but with pink flowers. It was supposed that this was a child of this clon, and was named by Kew 'Springwood Pink'. The original clon is now known as 'Springwood White'.

Both of these make excellent ground covers for small bulbs. The fast-growing green mat is flat, and unlike most of the low heathers, loose in growth, so that the bulbs are not stifled by a dense tangle.

All forms of *Erica carnea* are of the easiest culture and absolutely hardy here in central Massachusetts. They are growing here on a gravel slope that is always well-drained and in midsummer may become very dry. When they were small and newly planted, they had a thick mulch of pine needles, but the mature plants are able to supply themselves, from their own fallen leaves, with sufficient mulch for food and for protection of their roots from the hot sun rays of the dog-days. Except as newcomers, they have never required watering, and on no account should they be given fertilizer, either animal or chemical. All ericas grow naturally in a very lean soil.

All ericas are children of the sun. The alpine heath, at home on the warm slopes of the Mediterranean shores, will take all the sun it can get in northern gardens.

It is frequently said that this heath is the best one to try in alkaline soils. Of this, I have had no experience, but at least it would seem the choice for anyone to try under such conditions. Under any circumstances, it has the advantage of a longer period of bloom than any of the heaths, except calluna, which would be the most difficult of all on a chalky soil.

SALMAGUNDI

DR. WHERRY'S LETTER in the January BULLETIN regarding the removal of an entire stand of *Gentiana porphyrio* has brought a variety of responses. A vastly more serious threat to our native plants is set forth by Mrs. A. C. U. Berry, perhaps the outstanding rock garden enthusiast in the country, and an ardent student of the western flora. Nor is she alone in her observations of wholesale destruction of rare plants. We have seen whole fields of *Lilium michiganense* and woodlands dotted with *Cypripedium acaule* give way to housing developments. Even worse, the last time we paid our respects to the small stand of *Penstemon abietinus* in its type locality (and only one other station of the plant has ever been recorded), a highway was being constructed through the very center of this little patch of one of the most exquisite and garden-wise dwarf penstemons. Perhaps a few plants may survive along the road, but there is no indication that the plant will find another congenial location elsewhere in Salina Canyon. Some miles to the northeast, a reservoir was planned which would flood Joe's Valley, and drown the great prostrate mats of *Penstemon caespitosus* ssp. *perbrevis*. The only other stand of this which we know has

already suffered badly from the inroads of civilization, until only a few straggly plants can be found here and there. These isolated examples give only slight indication of a menace far greater than that of all the collectors and flower-pickers in the world.

What can be done about it? The only solution seems to depend upon active interest by gardening organizations, in protecting stands of rare plants, less by legislation than by purchase and preservation of these areas. Yet the Federated Garden Clubs, for example, seems concerned with conservation, but restrains its activities, so far as we can learn, to matters of education, and to the distribution of lists of plants that should not be picked. This is, to quote a recent review, the hurling of toothpicks where thunderbolts are called for. Our own organization is small, yet among its members are persons high in authority in the large Garden Club organizations. We challenge them to take steps to make their members aware of these wholesale depredations, and to develop a progressive program which will afford some really effective protection for our precious native plants.

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The December 25 number of the *Saturday Evening Post* contained a real Christmas present for lovers of the high peaks. In "I Climbed Again", George I. Bell records the adventures of a climbing party in the Sierra Blanca of northern Peru. This group of peaks is of particular interest because of its relative accessibility and difficult climbs, and also because it is the scene of the triumphal ascent of Huascaran, many years ago, by Annie S. Peck. This remarkable woman, after several futile efforts in Bolivia, succeeded in climbing the north peak of the highest of Peruvian mountains, although she was well over the age of fifty at the time. Unfortunately, for reasons unknown, she conquered the lower of the twin summits, but her achievement ranks high in the annals of mountaineering.

One interested in mountain plants cannot read of these adventures without wishing that the participants would stop occasionally to snatch a few seeds of the marvellous plants they pass on the way, yet apparently their eyes are so fixed on the summits that they never see the beauty at their feet. The article to which we refer is particularly tantalizing because of the wealth of treasures that were passed by. In crossing the Sierra Negra, to reach the valley which was their base, they must have seen such gems as a whole series of species of Nototriche, minute plants related to the mallows, but with relatively large flowers of incredible brilliance; *Gentiana pinifolia,* foot-high, with tier on tier of large erect bells of green; *Lupinus microphyllus,* only an inch high, with a few relatively big blue flowers. In the White Range itself grow such treasures as species of Bomarea, trailing alstroemerias with flowers of red and yellow; *Calceolaria weberbaueriana,* a most beautiful little high-alpine shrub with pouches of red-purple; more nototriches; *Gentiana tristicha,* with clusters of dark rose flowers slit into petals an inch or so long; and *G. weberbaueri,* a pryamidal shower of big red bells.

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Our last visit with Dr. Liberty Hyde Bailey took place only shortly before the accident that seriously hampered his activities for the remainder of his life. We had stopped at the Hortorium to check on some taxonomic problem, and came upon Dr. Bailey, then well over ninety-one but still without glasses, seated in a dark corner examining specimens of Rubus with the aid of a flashlight. Our conversation, throughout which Dr. Bailey still studied his herbarium sheets, dealt with the taxonomic problems presented by the brambles, with reminiscences of his experiences collecting plants on a remote part of the western coast of Mexico, and most of all with his projected trip to Africa. He planned

to cross the continent from west to east, studying and collecting palms. He had the details of the trip complete as far as a certain inland point. Beyond that, he had been able to learn nothing regarding problems of transportation or route. "But when I reach there," he said, "I'll find a way". Doubtless he would have carried through his undertaking with complete success, had not a broken leg, at almost the instant of departure, stopped further activity.

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Rydberg's long-sought "Flora of the Rocky Mountains and Adjacent Plains" has at last been reprinted. It is the only full and adequate taxonomic discussion of the Rocky Mountain flora, and has been unavailable for many years. Unfortunately its author was a "splitter", separating species on minute and sometimes inconstant differences. Also more recent investigations have made the book out-of-date with respect to such genera as Aquilegia, Mertensia, and Primula, among others. In spite of these handicaps, it remains indispensable to students of Rocky Mountain plants.

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The December 1954 number of *Baileya* continues Dr. Moore's series on Allium with a discussion of species of special interest to rock gardeners, among them *A. narcissiflorum* and *A. farreri.* Dr. Lawrence gives a key to the thirty-eight species of spring-flowering crocus known to have been available in this country in recent years. Especially valuable is a list of all those dealers in native American plants who are known to the Hortorium. Southern gardeners will be interested in the note on *Sphenostigma coelestina,* related to Nemastylis.

A supplement to the March issue will be a "Bibliography of Current Horticultural Periodicals", including those of every country, in so far as they can be located. It is our understanding that the bibliography will contain information on the scope and cost of each periodical. Subscribers to *Baileya* will receive a copy free, with the March number. Non-subscribers may purchase copies at fifty cents.

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The January *Quarterly of the American Primrose Society* is devoted largely to auriculas, which may or may not be of interest to rock gardeners. But it contains one article which we wish might have appeared in the BULLETIN, "In a Scottish Rock Garden", by A. B. Duguid. Mention is made of many choice and rare plants, with hints regarding their culture in this garden.

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We note with great pleasure that the Silver Veitch Memorial Medal of the Royal Horticultural Society has been awarded to Mrs. John Renton, of Perth, Scotland, "for her work in connection with the introduction and cultivation of new plants". The photographs of the Rentons' garden in the BULLETIN for October, 1954, gave some indication of the beauty of the plantings, but could not even hint at the myriad of treasures grown there. We have long marvelled at Mrs. Renton's uncanny skill in growing plants we have sent her from our arid West, alongside the trickiest and most elusive primulas and meconopsis from the monsoon regions of Asia. The award is, in our opinion, more than well-merited.

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Readers who have been eagerly awaiting the promised information on the beauties of *Veronica hulkeana* and *V. lavaudiana* must continue to curb their impatience, for the second installment of Will Ingwersen's article has not yet been received.