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ROCK GARDEN PHLOXES

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INCOMPARABLY the most important that America has yet evolved for the benefit of the rock-garden, was Farrer's characterization of the genus *Phlox*. But he was not satisfied with the relatively few sorts which he had been able to obtain: "That we should sit contented with even Vivid and G. F. Wilson among the Phloxes makes one ashamed, as one goes through the long list of exquisite and longed-for alpines that are still vainly offering themselves to us on the desert mountains of America." When he endeavored to ascertain what species there are, he unfortunately had at hand only Brand's 1907 Monograph. This German author never visited America and knew few of the species in living condition, so misinterpreted a good many of them.

For some years the writer has been carrying on a technical study of the genus; the illustrations in this article are from his photographs. There prove to be over 60 species, and a dozen of these may here be discussed as being of prime importance to the rock gardener. Farrer's longed-for alpines were largely mythical.

In the alphabetical sequence of the selected species, it will be noticed that "douglasii" does not appear. For some mysterious reason, whenever the identity of any western needle-leaved *Phlox* has been in doubt it has generally been called *douglasii*. Study of the type material and a visit to the type region in northeastern Oregon has shown that this epithet belongs to a narrow-leaved cushion-plant beset with abundant sticky glands, growing in dry sandy land at moderate altitudes. Dwarf phases of it bear the name *rigida*, while subspecies *hendersoni* is a compact high-alpine derivative. A relative with longer and broader leaves endemic in western Montana has been named *missoulensis*. This series of Phloxes has apparently not proved satisfactory as rock garden subjects.

Other omissions, for one or another reason, are: *P. amabilis*, the lovely Arizona Desert-star Phlox, scarcely to be expected to thrive in cultivation; *P. kelseyi*, another oft-misinterpreted name, belonging to a denizen of alkaline lands; *P. longifolia*, the most widespread western species, a plant of sage-brush country with little horticultural promise; Bush-phlox, *P. speciosa*, a shrub from Idaho and adjoining states, with stunning pink notched-petal flowers, not as yet successfully cultivated far from its native home; and *P. stansburyi*, a name mistakenly applied to several different western species (by Mr. Gabrielson to one unlike and evidently more beautiful than that to which it belongs), actually a mere long-flowered relative of *P. longifolia* in southern sage-brush land.

PHLOX ADSURGENS

This remarkable species is a native of the coast mountains and west slopes of the Sierra-Cascade ranges in California and Oregon between latitude 39 and 45 degrees. Its only close relative is the Appalachian *P. stolonifera*, native nearly 2500 miles away. Before the Glacial period their mutual ancestor evidently grew in what is now north-central Canada. The Periwinkle Phlox is not, as sometimes supposed, an alpine, but grows at moderate elevations on wooded slopes, even under coniferous trees. It seems to bloom best when peeping out from beneath a thicket, and so receiving sunlight part of the day. The stems, creeping over the leaf-litter, are beset with lustrous ovate subevergreen leaves; in spring they send up flowering shoots a few inches high, bearing large flowers having in some variants about the most entrancing coloring of any member of the genus: the corolla-lobes are deep salmon pink at the tip, grading to pinkish white at base, with an intense rose stripe down the paler portion, as in some of the Lewisias.

Phlox adsurgens shows a pink and white color pattern
Garden of Richard C. Harlow, Laanna, Pa.

In Western American Alpines, Mr. Gabrielson remarked that "This Phlox is a most delectable thing, and so comparatively easy to grow that it will doubtless be in general cultivation within a few years." Alas, in the eastern American lowlands, where the gardens of most of our members are situated, this prediction has not worked out. The plant fails to thrive, blooms sparsely if at all, and soon dies. In Dick Harlow's garden at Laanna, where the soil is kept cool all summer by trickling spring water, it did well for a time, as demonstrated by the accompanying photograph, but was later nearly smothered out by accumulations of soggy oak leaves. It will be worth trying elsewhere, in acid humus-rich soil, sheltered from midday and early afternoon sun, and on such a slope that most tree leaves blow away. Perhaps some day a strain adaptable to general rock garden cultivation may be developed.

PHLOX ALYSSIFOLIA

While best developed on the bare rocky slopes of buttes and hills in the high plains country from northwestern Nebraska and adiacent Wyoming to southern Saskatchewan and western Montana, the Alyssum-leaf Phlox ascends to considerable altitudes in the Black Hills of South Dakota. An especially good form, here illustrated, abounds on a small hill rising near the railroad station of Lusk, Wyoming. One clone from this locality has been assigned the independent epithet "sevorsa," but most of the clumps are typical of the original species. It is a low-growing plant with thick, white-margined hairy oblong leaves. While variable from place to place, one can readily select from its colonies individuals with flowers of good size and petal-form, and of lovely glowing pink hues. The larger and more striking variant has been designated subspecies *abdita*. The nearest relative of the Alyssum-leaf Phlox among widespread species is *P. caespitosa*, which has smaller and thinner leaves; the epithet *kelseyi*, sometimes applied here, belongs to a quite different one.

A fine form of *Phlox alyssifolia* with glowing pink flowers.
Outskirts of Lusk, Wyoming

In eastern lowland rock gardens the Alyssum-leaf Phlox is reported to be not at all easy. Coming as its does from regions of sparse rainfall and low humidity, it seems to resent the greater amount of moisture to which it is subjected here. It may be expected to grow, if at all, in a sandy loam admixed with an excess of limestone chips, on a sunny well-drained slope where snow does not accumulate extensively. As in its native haunts the soil is sometimes thinly covered with pine needles and other litter, a mulch of such materials may benefit it.

Mr. Gabrielson mentioned the related *P. albomarginata* and what I consider a subspecies of that, *P. diapensioides*. These are diminutive alpine derivatives of *P. alyssifolia* endemic in a limited area in western Montana and adjacent Idaho, no doubt even more difficult to grow in humid lowland regions.

PHLOX ANDICOLA

As one travels west across the prairies in spring, the climate becomes less and less moist, and the eastern Phloxes disappear from the floral landscape one after another. The most drought-resistant, *P. pilosa fulgida*, makes a brilliant show in strips of unbroken prairie left between highway and railway here and there, but gives out at about longtitude 96°. Then for 300 miles there are no Phloxes at all, but around longitude 102° the genus again becomes evident, and the first species encountered is *P. andicola*. This species epithet is, unfortunately, a misnomer, for the plant's habitat is not in the least "andean;" actually it should be called the Plains Phlox, for it grows on gentle rocky slopes and sandy flats from northwesternmost Kansas and eastern Colorado to west-central North Dakota. The needle-leaved shoots, pushing up through the sand, suggest fairy Christmas trees; the flowers are pearly white or pinkish, and selection will yield desirable broad-lobed forms.

The shoots of *Phlox andicola* push up through the sand.
Vicinity of Hyannis, Nebraska

Being the easternmost of the species of western North America, *Phlox andicola* would be expected to be especially likely to thrive in eastern rock gardens, and it is said to have proved satisfactory in some of them. It prefers a soil of sandy loam type with the proportion of sand increasing upward, good drainage, and full sun. In the wild a sparse accumulation of grass litter often protects its soil surface. When its needs are met, the crowns will send out slender rootstocks which turn up at the tip to produce new shoots, forming a pigmy forest.

The Phloxes known as *P. canescens*, *hoodii*, and *muscoides*,—mere subspecies of one another, progressively diminishing in size—are short-leaved derivatives of the Plains Phlox. They, and their cunning little square-shoot relative *P. bryoides*, resist all coddling, and usually die out rapidly from the eastern lowland rock garden.

PHLOX BIFIDA

Sand Phlox is a midland species, ranging from central Tennessee to eastern Kansas, north to southern Michigan and eastern Iowa. While especially frequent on sand hills—notably in the Sand Dunes Park of northern Indiana—it also grows on rocky slopes and cliffs of both sandstone and limestone. Its sprawling stems, clothed with narrow leaves up to 2½ inches long, form attractive open tufts and festoons, starred in spring with lovely flowers. The petals are often so deeply notched that there seem to be 10 instead of 5 of them; their hue varies from white to delicate lavender or less commonly lilac. During the winter the clumps may look nearly dead, but new growth appears in earliest spring, and soon develops the lax flower clusters. As no two plants are ever exactly alike, a group of seedlings will present an interesting study in variation. *Phlox bifida* is distantly related to the eastern *P. subulata* and to a Rocky Mountain rarity named *P. patula;* their corolla-lobes are less deeply notched.

A form of *Phlox bifida* with especially broad lobes.
In a D.C. garden; from Indiana sand dunes

In rock gardens this *Phlox* is not so widely used as it deserves to be. It is not especially difficult, asking only a well-drained soil and full sun, and will even form festoons in a wall garden. Certain of its variants and relatives are noteworthy. The original *Phlox stellaria* differed in the pubescence being sparser and the notches in the corolla-lobes shallower, and is a mere subspecies. (In the horticultural trade, forms of *P. subulata* are offered as "stellaria.") A rare relative from northern Oklahoma has recently been named *P. oklahomensis;* its flowers are more deeply colored, and it deserves rock garden trial. Farrer's favorite, "Phlox G. F. Wilson," appears to be a hybrid of *P. bifida* with *P. subulata.* That between *P. bifida* and *P. nivalis,* which appeared spontaneously in the garden of Mrs. J. Norman Henry near Gladwyne, Pa., and was appropriately named *P. henryae,* has large flowers of bright pink hue.

PHLOX DIFFUSA

Perhaps the *Phlox* to which the epithet "douglasii' is most often misapplied is the one from the western mountains named by Bentham in 1849 *P. diffusa*. This corresponds in the west to *P. subulata* of the east,—a mat-forming plant with sparsely hairy needle-leaves and abundant flowers. Growing over a vast territory,—from Coast Ranges to western Rockies, California to British Columbia, and in one subspecies even into South Dakota; and climbing from forested foothills to alpine heights, it is naturally decidedly variable. Its stems always tend to sprawl and its hairs are always pointed, however, there being no gradation toward the tufted, glandular-haired *P. douglasii*. The flowers vary in details of lobe-outline and hue,—from pure white to clear pink and deep lavender—and often hide the foliage. The Black Hills representative, known as subspecies *scleranthifolia*, tends to form festoons, and has especially delicate leaves and flowers. In drier, low-altitude valleys the herbage may become more hairy, grading into *P. hoodii canescens*.

The pinkish flowers of *Phlox diffusa* often hide the foliage.
V-T ranch, north of Grand Canyon, Arizona

One of the few western Phloxes which grows reasonably well in rock gardens, this species, as Mr. Gabrielson remarked, "will undoubtedly be the first of the [western] needle-leaved Phloxes to become generally cultivated." For low-level gardens, stock should preferably be obtained from other than alpine occurrences, and even then it had best be planted where its soil will not be strongly heated by the summer sun. In the wild it grows most abundantly in gravel derived from siliceous igneous rocks and sandstone, although locally it may enter limestone barrens.

In the more arid regions this *Phlox* grades through subspecies *subcarinata* (the one figured above) into *P. austromontana*, which has stiffer and sharper leaves, and often larger flowers. Whether this denizen of the desert hills can ever be successfully cultivated in humid climates remains to be seen.

PHLOX DIVARICATA

Although it is often called "Blue Phlox," the corollas of this species are never really blue, normally ranging from lavender to lilac. The name here preferred, Woodland Phlox, refers to the fact that it thrives best in mature woods; it grows from longitude 96° to the Appalachians, and locally down stream valleys to the eastern seaboard. It was one of the earlier members of the genus to be introduced into European horticulture, having been sent by John Bartram to Peter Collinson about 1739. The latter referred to it as "a very pretty Lychnis, with pale blue flowers and sweet smell." In the original representative of the species, as shown by the Linnaean type specimen, the corolla-lobes were deeply notched; this is the so-called variety *canadensis*. Plants native to the Mississippi valley have mostly notchless lobes, and have been designated var. *laphami*. Both of these varieties (or subspecies) spread by stolons as well as by seeds, to form ravishing drifts of lavender lasting well through spring. They have various color-forms, including albinos.

Woodland Phlox, *P. divaricata*, varies in corolla-lobes.
Alluvial woods along the Potomac, Cabin John, Md.

A shade-loving plant like this *Phlox* is not to be expected to thrive in the dry sunny rock garden; its place is in an adjacent bit of woodland or among shrubbery where it receives only dappled sunshine and the soil remains somewhat moist.

From the colonies of var. *laphami* in western Florida Mrs. J. Norman Henry has selected a striking color-form, in which the lobes are deep lavender, and the eye intense red-purple; this has been named hort. var. Chattahoochee, after the river valley where it is native. In spite of its southern origin, it seems entirely hardy at least as far north as latitude 41°.

A hybrid of *Phlox divaricata* with *P. paniculata*, known as *P. arendsii*, has large pink flowers, and, blooming as it does for a long period in summer, deserves a place in the rock garden.

PHLOX NANA

In 1848 Nuttall applied this epithet to a *Phlox* collected by his friend Dr. Gambel at Santa Fé, New Mexico. It still flourishes there, its large purple-pink flowers beautifying the rocky slopes and open pine woods; it is now known to extend southward through that state and west-Texas some distance into Mexico. Species characters include terminally constricted corolla-tube and very short style. Many variants and relatives have been named in subsequent years, and the nomenclatorial tangle is rather complex. For our present purpose, suffice it to state that the original representative of the species has short leaves well covered with sticky glands. In 1905 Greene proposed for a long-leaved, less viscid variant the epithet *mesoleuca* (originally so-spelled!), while in 1907 the German monographer Brand named much the same plant subspecies *ensifolia*. As the leaf difference is too trivial to justify species separation, Brand's classification is the only acceptable one. There is also a glandless extreme, known as subspecies *glabella*.

The purple-pink flowers of *Phlox nana* beautify rocky slopes.
Canyon southeast of Santa Fe, New Mexico

Growing as it does under dry environmental conditions, the Santa Fé Phlox would not have been expected to thrive in moist-climate rock gardens. However, several years ago some collector sent to England, allegedly from west-Texas, a clump of *P. nana* under the name "mesaleuca" (not the correct spelling); and behold, this not only grew, but actually prospered so well as to receive awards of merit and other commendations. Perhaps the clone suited to English conditions would not thrive in eastern North America, but there may be others which would do so. If any of our members have occasion to visit Santa Fé or the mountains to the south or southwest—including the Davis Mountains of Texas—it is to be hoped that they will bring back some roots, and experiment. The species is so showy, and blooms over such a long period—in spring and often again in summer and fall—that it deserves repeated trial.

PHLOX NIVALIS

There has been so much confusion as to the relationships of this *Phlox* that a discussion of its history is in order. It was one of the species sent to England in early colonial times and figured by Plukenet in 1691. Linnaeus intended to name it *P. subulata*, but cited in connection with that epithet a specimen subsequently collected by Kalm in New Jersey, where *P. nivalis* does not grow. It was first brought permanently into horticulture in 1788, when it was collected by John Fraser in South Carolina. When publishing a colored plate of one of the Fraser plants—a fine upstanding pink-flowered form—in 1798, Curtis mistakenly called it *P. setacea*. In the early 1820's a Dr. Wray sent a white-flowered variant from Augusta, Georgia, to the firm of C. Loddiges in England, and they issued a color-plate of it under the name *P. nivalis*—signifying snowy—in 1823. Under the rules of nomenclature their publication was insufficient, but the epithet was validated by Sweet in 1827. Since pink and purple represent mere color-forms, the name has to cover them also.

Phlox nivalis is often less compact than *P. subulata*.
Open woods near Emporia, Virginia

Asa Gray refused to distinguish *Phlox nivalis* from *P. subulata*, and thereby led Charles Darwin to become so confused as to their pollen relations as to exclaim that these Phloxes are "perplexing in the highest degree." They are actually similar only in foliage.

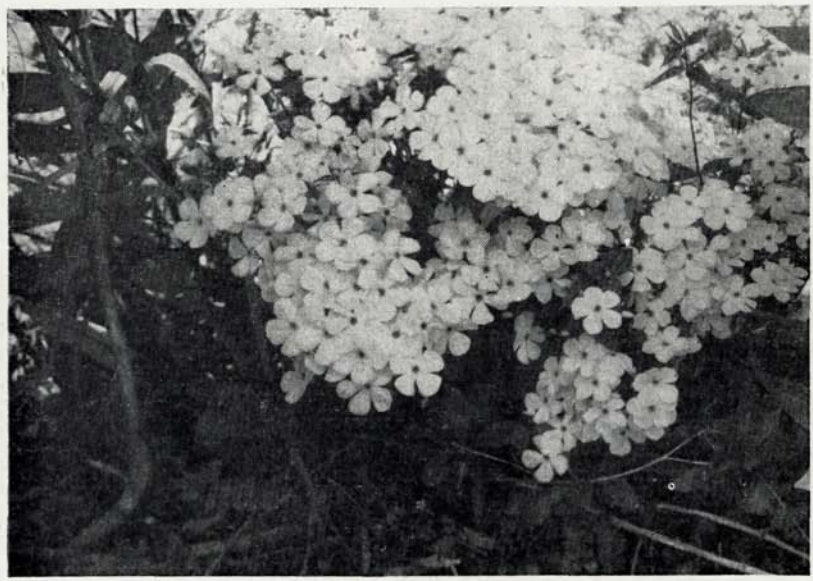
Some horticulturists use the epithet *nivalis* for white color-forms of *P. subulata;* but the crowning case of confusion has been the recent reintroduction of the form of *P. nivalis* figured by Curtis in 1798 as "Phlox camla," guessed to be a hybrid between scarcely related species.

Besides the originally-named white form, there are many lovely colors; certain of these have already been discussed in this Bulletin (vol. 1, p. 2—3; vol. 3, p. 11.) In comparison with *P. subulata*, the present species is less compact, and the coloring is on the whole more brilliant, with less tendency toward undesired magenta.

PHLOX OVATA AND RELATIVES

The first reference to this *Phlox* was made by Plukenet in 1700; the species epithet was assigned to it by Linnaeus in 1753. Confused by the fact that the early plant had produced but a solitary flower, Michaux renamed it *P. latifolia* 50 years later. It has also frequently been confused with *P. carolina*, named by Linnaeus in 1762, but the two are really quite distinct. The name Mountain Phlox has been allotted to the present species because of its abundant occurrence in the Appalachian mountains from northern Georgia to east-central Pennsylvania. The forms more frequently met with have flowers of rather dingy magenta hue, but locally there are attractive purple and pink variants.

In May, 1929, the writer was driving through the hills of Walker County, Alabama, on the lookout for interesting native plants, and discovered near the village of Oakman a spectacular relative of *P. ovata*. This bears abundant large soft-pink flowers, and was duly named *P. ovata pulchra*,—signifying beautiful; it has thrived in a few rock gardens.

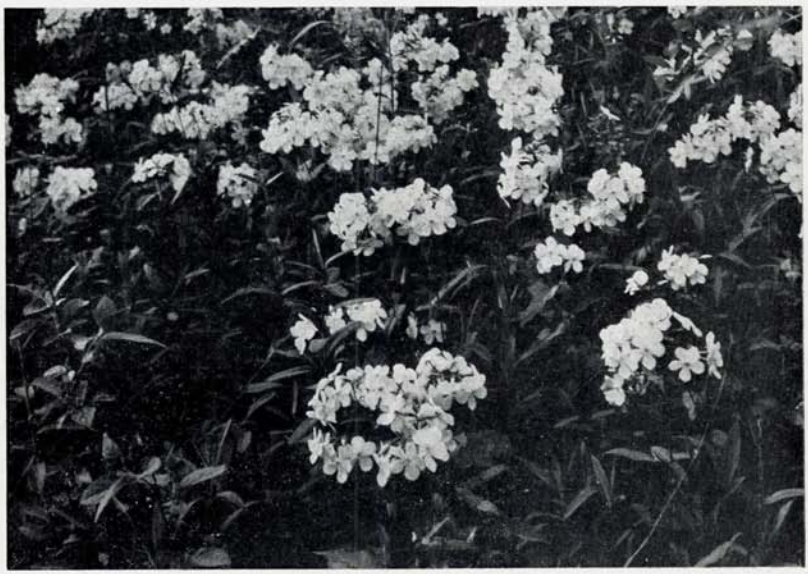


Abundant soft-pink flowers characterize *Phlox ovata pulchra*. In a Pennsylvania garden; from woods near Oakman, Ala.

Phlox carolina, another Linnaean species, is distinctly different from *P. ovata*, and their epithets should never be combined, as is sometimes done in horticultural literature. This species differs in having longer sterile shoots, more numerous stem-nodes, and smaller flower-parts. It is exceedingly variable from one locality to another, and the nomenclature of its variants is rather confused. In a recent article in Bartonia the writer has endeavored to straighten this out, recognizing several more or less distinct subspecies. A few years ago Mrs. J. Norman Henry discovered near Warm Springs, Georgia, a stunning form of one of these. This forms a conspicuous evergreen rosette, from which arise, all through summer and autumn, flowering shoots bearing huge inflorescences, with flowers of a most striking clear bright pink. This is to be known as *Phlox carolina* hort. var. Gloriosa.

PHLOX PILOSA AND RELATIVES

Besides two mossy Phloxes, Plukenet's 1691 plate included a drawing of the species subsequently named by Linnaeus *Phlox pilosa*. This original representative of the species had narrow leaves and rather small white flowers; subsequently, pink and purple forms were introduced, but their horticultural value is slight. An especially vigorous race from northeastern Illinois, with silvery lavender flowers, was dubbed *P. "argillacea,"* and when cultivated in England under that name received awards of merit; in the eastern United States it seems to grow only indifferently. The prairie representative of the species, known as var. *fulgida*, produces brilliant splashes of color in what remains of that former vast grassland, but fails to thrive in cultivation at all. There is, however, a variety (or subspecies) of more southern range with considerable horticultural promise. This has relatively broad leaves and showy flowers of excellent pink to white hues; abounding in the Ozarks, it has been called *P. pilosa ozarkana*.



Phlox pilosa ozarkana has broad leaves and showy flowers.
Native in Mrs. James Dormon's wild garden, Shreveport, La.

The related *Phlox floridana* differs from *P. pilosa* in the way the glabrous oblong leaves gradually shorten at many nodes up the stem. Its more frequent forms have raucous purple flowers, and moreover have failed to prove amenable to cultivation. However, Mrs. Henry has found near the Gulf of Mexico a variant remarkable in several respects, which has been named *P. floridana bella*. This remains rather dwarf, has fine glossy foliage, and produces good clusters of soft pink flowers nearly throughout the growing season. Fortunately, too, when planted in dryish sandy soil and protected from bleak northwest winds, it has proved winter-hardy as far north as latitude 41°.

Another related species, *Phlox amoena*, has already been described in this Bulletin (vol. 1, p. 60); it has several attractive color-forms. The "P. amoena" of the trade is, however, an utterly different hybrid.

Phlox stolonifera
POLEMONIACEAE

Originally published as Plate 9 on December 31, 1940.

PHLOX STOLONIFERA

"We are informed by Mr. John Fraser, of Sloane-Square, Chelsea, that he first discovered this plant in Georgia, in the year 1786, together with *Phlox pilosa*, *P. setacea* and *P. subulata*, but that living plants were not brought to Europe till 1801, his sixth voyage to North America on botanical researches, in company with his son.

"It promises to be a valuable addition to our gardens, particularly calculated for ornamenting rock-work, being, we are assured, perfectly hardy in our climate, although the specimen from which our drawing was made last Summer was flowered in the stove."

So wrote John Sims, M.D., Fellow of the Linnean Society, in presenting this *Phlox* to the botanical world in 1802. The excellent plate accompanying his description shows that the original plant had a corolla of a deep violet-blue color. The same species was collected by Michaux "in excelsis montibus Carolinae occidentalis" and named by him *Phlox reptans;* that he had a similar color-form is shown by his characterization of the corolla as "amoene coerulea." Although the Michaux species name is widely used among horticulturists, the rule of priority requires adoption of the Sims name, since this was published a year earlier.

This *Phlox* is one of the most outstanding members of the genus in ease of culture and beauty of flower. Native in the open woodlands of the Appalachians and foothills—spreading from a dispersal-center in West Virginia to central Pennsylvania, southern Ohio, and northern Georgia—it is adaptable to a wide range of climatic conditions. Its soil is most frequently subacid, and it thrives best, yielding the finest floral display, in a partly-shaded, non-limy rock garden. The plant produces runners which root at the nodes to form new plants, and it can accordingly be readily propagated by cuttings of these stems. In favorable situations, it spreads into mats, which in May become bedecked with large flowers of most charming delicacy of coloring. While the form originally found by both Fraser and Michaux had violet flowers, and has been named *violacea* (or less correctly *coerulea*), purple color-forms are more frequent in nature. There are also a number of lovely lavender and lilac ones, which will, no doubt, some day receive horticultural names and find their way into many rock gardens.

Phlox stolonifera is an herbaceous perennial with evergreen spatulate leaves on the sterile shoots; these shoots, at first more or less erect, become prostrate, take root at the nodes, and form new plants, ultimately developing extensive matted colonies. The herbage is pubescent, the hairs being pointed at the base of the plant, and gland-tipped upward. In spring, erect stems arise to a height of five to ten inches, bearing sparse oblong leaves and a terminal cyme of a few large salver-form flowers. The calyx is composed of five sepals united for about half their length into a tube, and terminally broad-subulate. The corolla-tube is about an inch long and is sparsely pubescent; the five lobes are usually obovate and entire or barely emarginate at the tip. In color the corolla-face ranges from light violet—to many eyes, seeming almost blue—through a series of lavender and lilac hues to phlox-purple; around the tube-orifice an eye of somewhat deeper hue is occasionally developed. As in all Phloxes, the five stamens are irregular; and in this species, the anthers of one or more of them are exserted, their golden color contrasting with that of the corolla. The pistil is tricarpellate, with a compound style equalling or exceeding the corolla-tube in length, tipped by the three stigmas. Viable seeds are rarely produced, the species being maintained largely by vegetative reproduction.

Phlox stolonifera Sims in Curtis' Bot. Mag. 16: pl. 563. 1802.

PHLOX SUBULATA

In the view of Reginald Farrer "The day that saw the introduction, more than a century since, of *Ph. subulata,* ought indeed to be kept as a horticultural festival." This species is so well known to rock gardeners that no description of it will be given here. It was figured by Plukenet in 1691 (and named by Linnaeus from that figure *P. setacea*), and permanently introduced into horticulture by John Bartram in sending "one sod of the fine creeping spring Lychnis" to Peter Collinson on December 10, 1745. We publish on the opposite page a photograph of the world's greatest natural Moss Phlox rock-garden: a fifteen acre serpentine barren northeast of Unionville, Chester County, Pennsylvania. It was on such a barren that Bartram collected the original material; no two plants in these vast colonies are exactly alike in foliage, floral pattern and coloring.

MRS. HENRY'S PHLOXES. — For many years Mrs. J. Norman Henry has been scanning colonies of native plants for clones of superior horticultural value. When promising ones have turned up, they have been tried out at Gladwyne and the best selected for propagation. A number of these have now increased to such an extent that they can be placed on the market; all profits which accrue for their sale are being donated to the American Red Cross.

As native Phloxes are markedly variable, they have naturally furnished a considerable number of novelties, thirteen of which are now being offered. The features of these may be summarized here as a supplement to the foregoing account of Phlox species.

P. amoena "Tallapoosa." A bluish-flowered form of the species. (This is of course utterly different from *P. procumbens,* which is distributed by many dealers as "P. amoena." That this holds in England too is shown by the publication in the August, 1944, number of the periodical, My Garden, of a fine color plate of *P. procumbens,* termed "amoena.")

P. bifida "Alba" and "Bunny," respectively white and purplish forms. The common form of this species has pale lavender flowers.

P. carolina "Gloriosa." The floriferousness and brilliance of this summer-blooming Phlox must be seen to be believed.

P. divaricata "Chattahoochee." A form of variety *laphami*—the entire-petalled one—with unusually deep-hued petals and red eye.

P. floridana "Bella." A lovely low-growing pink-flowered variant with especially long blooming period.

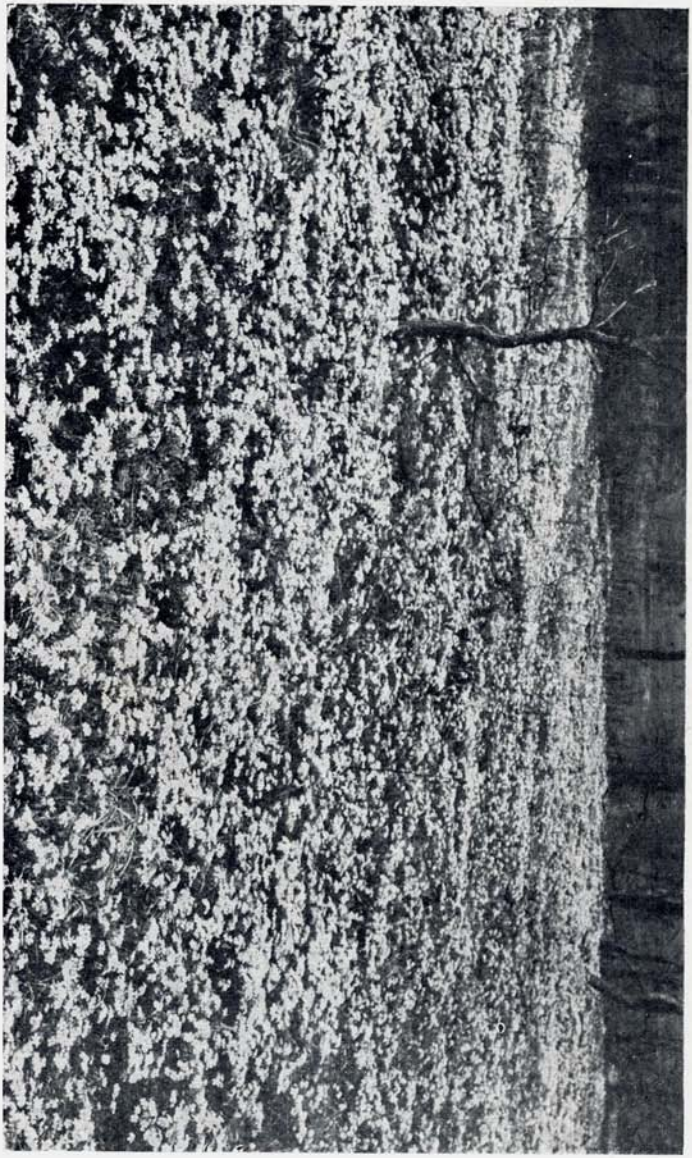
P. henryae. When an insect all unknowingly carried pollen from a flower of *P. nivalis* to one of *P. bifida,* the hybrid which resulted gained an individuality of its own. Two color-forms developed, "Pink" and "Blue," the latter tending toward a lavender hue.

P. nivalis "Azure" and "Gladwyne." These are respectively delicate lavender-blue and brilliant white with slight creamy tinge. Gladwyne tends to flower continuously from April to November.

P. ovata "Pinkster." A pink-flowered form of variety *latifolia.*

P. stolonifera "Blue Ridge" and "Pink Ridge." Superior color-forms.

NOTE: The drawing from which plate No. 28 was made is the work of Miss Inez Renninger of Philadelphia, being one of the illustrations prepared by her for the forthcoming Flora of Pennsylvania, under W.P.A. project No. 16659 and is published through the courtesy of the Department of Botany of the University of Pennsylvania.



Phlox subulata at home. Reproduced by courtesy of the Philadelphia Botanical Club.

THE AMERICAN ROCK GARDEN SOCIETY

FEBRUARY 20

If you were not there you missed one of the most entertaining and instructive sessions we have had; with Harold Epstein doing a perfect Faddiman, with Ed Alexander, Pete vanMelle and Marcel LePiniec doing the experting and all the large gathering taking part; we outdid Hortus, S.P.N. and all the text books; going to be an annual affair.

MARCH 21

It seemed like old times at our Annual Luncheon with an overflowing and congenial company of members and friends; and what a splendid, instructive discourse Mr. F. Cleveland Morgan gave us, one we will long remember, and Harold Epstein's new projector made Mr. Morgan's beautiful pictures doubly pleasing.

APRIL 24

"In Praise of the Violets," with Arthur H. Osmun singing the praises; illustrated with blooming plants.

MAY 11

Open house at "Tumbling Waters"; 11:00 A.M. to 5:00 P.M. Mr. and Mrs. Walter D. Blair enjoyed our visit to their beautiful home in Tarrytown so much last year that they want us to come again this year; and it is certain we all want to go. Luncheon at one-fifteen.

MAY 25

Our Annual Business Meeting and Election of Officers will not take much time and you will have the rest of the day to enjoy the fairyland of rock gardens you'll find on Leonard J. Buck's "Allwood" Acres at Far Hills, N. J.; bring a basket lunch; coffee and other things will be served and we hope to introduce our next President, a national figure.

If you drive from New York, after leaving Holland Tunnel, take Route 29 to light at Somerville; turn right on Route 31 and at Bedminster turn right on Route 32; at Far Hills railroad track turn right on Liberty Corner road, one mile to "Allwood," watch for sign.

If you drive through Morristown, take Route 32 to Far Hills and turn left at railroad.

Trains leave Barclay Street, D.L.&W. Ferry at 9:40 and 11:15 A.M. stop at Newark at 10:15 and 11:44 and arrive at Far Hills at 11:30 and 1:00; trains leave Far Hills for New York at 2:54, 4:08 and 4.54 P.M.

SEED EXCHANGE

The following seed have been received: From Mrs. E. M. Babb, Portland, Maine: Dryas Sundermanni and Solidago Cutleri. From Mrs. H. D. Thomas, Paterson, N. J.: Un-named Iris from Gaspe.
send to Mrs. Hildegard Schneider, 1751 Seminole Ave., Bronx, N. Y.; enclose stamped, self addressed envelope.