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## SAXIFLORA

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## RHODODENDRONS FOR THE ROCK GARDEN

CARL S. ENGLISH, JR., Seattle, Washington

From the alpine parts of China, India, Tibet, Burma, and the arctic regions of the world come more than 150 species of handsome little creeping shrublets or dwarf shrubs that attain a growth of approximately one or two feet in height. Because of their size and habits, most of these are excellent plants for the rock garden.\*

For reasons of convenience, Rhododendrons are grouped into series of related species and varieties. Although an occasional dwarf species is found in nearly all of the forty-three recognized series, most of the species suitable for rock garden use belong to some seventeen of the series. These are here discussed, in systematic sequence.

Characteristically these attractive little plants have small leaves as well as small flower trusses. Many of the groups are favored with delightful foliage fragrance. Brushing one's hand across the leaves brings to mind the aromatic essence of sandalwood, camphor and other reminders of the Far East. Even if they did not have flowers, this attribute of fragrance would make them entirely worth growing.

#### NERHIFLORUM SERIES

Among persons who have grown many of the dwarf rhododendrons, there is a particular interest in the various species of the Neriiflorum series, and rightfully so because they meet all of the requirements of a desirable horticultural subject. Most of the members of this group are dwarf, neat, compact, slow-growing and hardy. Typically their leaves are deep, dark green, usually with white or brown indumentum beneath. The flowers in most cases are rather long bell-shaped, and although there are relatively few in a cluster, they are of generous size and of thick, fleshy texture. The colors range with emphasis toward the brilliant tones, such as yellows, oranges, pink, rose, scarlet and deep crimson. Black-crimson and rarely white forms are also included.

The Forrestii subseries contains six species: Rhododendron erastum, R. forrestii, R. porphyrophyllum, R. pyrrhoanthum, R. repens and R. serpens. All are highly desirable, low, creeping shrubs which seldom reach a height of more than a foot. The flowers of the various species range from pink to crimson. R. forrestii and R. repens are the best known in cultivation.

The Neriiflorum subseries contains six species and four varieties all of which are desirable plants. For rock garden use, four species are especially worthy of mention, namely, *R. neriiflorum*, with bright crimson flowers and oval-shaped leaves; *R. floccigerum*, with crimson flowers

<sup>\*</sup> They thrive better under the climatic conditions of the northwest coast than in the east, where the gardens of most of our members are situated. Reports as to which of the species have been successfully grown in the latter region will be welcome. Editor.

and lanceolate leaves with flocculose indumentum beneath: R. sperabiloides, a neat little shrub with light crimson flowers; and R. euchroum, the lowest-growing of the group, with a height of one and a half to two feet, and flowers of bright brick red.

Within the Neriiflorum series, the Sanguineum subseries, with about sixteen species and seventeen subspecies, is the largest. Although a few species eventually grow to four or more feet in height, most of the members of this group are low-growing and very worth-while rock plants. A very dwarf member and an especially desirable plant is R. aperantum, a widely spreading shrub, six to twenty inches high with flowers varying in color from white, rose and deep rose to orange and yellow. Those with yellow flowers include: R. citriniflorum, R. fulvastrum and R. himertum. The first of these with bright yellow flowers and a height of two to four feet, is considered the finest.



An especially desirable plant is Rhododendron aperantum. The flowers vary in color from white and rose to orange and yellow. In garden of Mrs. A. C. U. Berry.

R. dicroanthum is a most desirable species with orange-flushed, salmonrose flowers. Similar in coloring are the related species, R. herpesticum,  $R.\ scyphocalyx$  and  $R.\ apodectum.$ 

Of the red-flowered kinds, R. sanguineum is the choicest. Its flowers are bright crimson and its eventual height is about three feet. Interesting, though not colorful, are the black-crimson flowers of R. didymum and R. haemaleum. Another, R. horaeum, with deep crimson flowers, is valued for its procumbent habit. In many of the members of this series the calyx of the flower is like the corolla in texture and color. Such is the case in R. torquatum. In addition, in this species the fairly large cally is reflexed, giving the flowers a unique appearance.

#### THOMPSONI SERIES

In the Thompsoni series is *R. williamsianum*, one of the most attractive dwarf species of rhododendron. It has heart-shaped leaves, beautiful clear shell-pink flowers and a habit of slow growth, although in time it will reach a height of three feet or more.

#### PONTICUM SERIES

R. chrysanthum, with yellow flowers, is the one true dwarf of the Ponticum series. Coming from the mountains of Siberia, Mongolia and Manchuria, it is very hardy. This plant is typically saxicolous, the branches reaching out to curve around the edges of rocks. Although the original form of the species does not grow much more than six inches in height, a variant form called niko-montanum is more upright in habit.

#### TALIENSE SERIES

The large and diverse Taliense series includes several species that are typically dwarf. However, they do not seem to be well represented in cultivation. The foliage of these plants is especially attractive, compact and often bearing brightly colored indumentum beneath. Some have extremely narrow leaves. R. pronum, a prostrate plant of three to ten inches and with yellow flowers, is the lowest-growing of this group. Others that grow from one to three feet tall are: R. codonanthum and R. proteoides with yellow flowers; R. comisteum, R. lampropeplum and R. doshongense with rose or white, and R. gymnocarpum with deep claret-crimson flowers.

#### CAMTSCHATICUM SERIES

The three deciduous creepers constituting the Camtschaticum series are confined in distribution to a portion of northeastern Asia, Japan and Alaska. All grow in peaty soil and in a cool climate. This series has sufficient characters of differentiation to have been regarded by some authorities as a distinct genus, Therorhodion. R. camtschaticum, with its rose-purple flowers, is the only member known to be in cultivation. It is found on the Kamtschatka Peninsula, eastern Siberia, Alaska and the Aleutian Islands. R. glandulosum from northwestern Alaska and R. redowskianum from Manchuria are the other two members of the series.

All of the rhododendrons mentioned thus far belong to the division described as elepidote, meaning without scaly pubescence. Those in the series which follow belong to the lepidote, or those which are characterized by having scaly pubescence. The presence or absence of this character separates the two main divisions of rhododendrons.

#### BOOTHH SERIES

The Boothii series includes some of the choicest of dwarf rhododendrons. These are neat, compact, little plants as, for example, *R. leucaspis*, which invariably attracts a considerable share of attention with its roundish, hairy leaves and milky white flowers, which appear in February or early March. It is, perhaps, the hardiest species of the series.

In this series we find a fine assortment of yellow-flowered species including R. megaratum which is much like R. leucaspis in habit, R. aureum, R. auritum, R. chrysodoron and R. sulfureum.

R. tephropeplum and R. deleiense are described as having magentarose flowers but as observed growing here in Seattle these species have flowers which may be more accurately described as a clear pink. R. deleiense has larger flowers and broader leaves than those of R. tephropeplum. Many of the plants grown under the name of R. tephropeplum really are R. deleiense.

#### MADDENII SERIES

A marked departure from ordinary rhododendrons is found in the large and valuable Maddenii series. However, most of the plants in this series are too tender or grow too tall to consider here. Some are noted for their sweet-scented flowers. R. ciliatum is a great favorite among persons who know it because of its hardiness and all around attractiveness. When grown in plenty of light it becomes sturdy and compact and late in March or April is abundantly covered with large white or white and rose-tinted flowers; in more shade it is inclined to become leggy. R. valentinianum, with its neat habit and bright yellow flowers, will be much sought after when it becomes better known. R. polyandrum is quite hardy and is the only member of the Maddenii subseries that does not reach a height of more than three feet. Its flowers are white flushed with pink or pale yellow.

#### MOUPINENSE SERIES

R. moupinense and two allies comprise the Moupinense series. These three species are so closely related to the Maddenii series that they might well have been included in it. All are dwarf, sprawling shrubs of either terrestrial or epiphytic habit. Their flowers are large and showy. Only R. moupinense seems to be in cultivation. It is quite hardy, bearing large, white flowers in February. Probably equally hardy is R. dendrocharis with its large, bright, rose-red flowers. It should make a sensation once it becomes better known through cultivation. R. petrocharis, with white flowers, will probably prove more tender.

#### GLAUCUM SERIES

The Glaucum series is characterized by having aromatic leaves which are generally white and glaucous beneath. The branches and petioles are often bright red. R. charitopes is a particularly handsome dwarf, a foot high, with flowers of apple blossom pink. R. pemaköense, with its very large, pink flowers and small, shiny leaves, is unique in having underground stolons. R. glaucum is a taller shrub with pink flowers. R. tsangpoense and R. pruniflorum, particularly the former, are very handsome dwarf foliage plants. Their flowers, unfortunately, are of a dull, plum purple. Although R. brachyanthum is said to have unattractive flowers, in all of this kind that I have seen these have been of a particularly handsame bright yellow. R. charitostreptum is still another fine yellow-flowered species.

#### CAMPYLOGYNUM SERIES

The Campylogynum series is a small group of four species of sufficiently close relationship to the Glaucum series logically to be combined with it. Representative is *R. myrtilloides*, a choice carpeting shrublet of three or four inches, with small, plum-colored flowers uniquely arranged. The foliage is the most attractive part of the plant, the leaves being tiny, round, shining and pure white underneath.

#### LEPIDOTUM SERIES

The Lepidotum series, with about nine dwarf species, bears considerable resemblance to the Glaucum series in flower structure and inflorescence. In foliage it strongly resembles the Lapponicum series, especially in that the leaves assume a rusty, dead appearance in the winter. By far the most attractive species of this group is *R. imperator*, a dwarf, carpetforming shrublet with large, bright purple, solitary, upright flowers.

#### LAPPONICUM SERIES

R. lapponicum was discovered by Linnaeus when he made his famous botanical journey to Lapland in 1732. This arctic-alpine species has the widest distribution of all rhododendrons, having been found in northern Europe, northern Asia, Arctic America, the Dells of Wisconsin, and on Mt. Washington in Vermont. Members of this series are recognized by their tiny, elliptic leaves, often as short as one-fourth of an inch and of aromatic fragrance when bruised. Blue and purple—even royal purple—predominate among the flower colors. Occasionally pink and rose occur in the series, and even yellow in R. chryseum and R. flavidum. Other desirable species now available in the Lapponicum series are: R. fastigiatum, R. fimbriatum, R. hippophaeoides, R. impeditum, R. orthocladum, R. russatum, and R. scintillans.



The flowers of Rhododendron fastigiatum are lilae-rose. In rock garden of Swiss Floral Co., Portland, Oregon.

#### CEPHALANTHUM SERIES

Plants of the Cephalanthum series, as the name suggests, bear their flowers in dense heads. The delightful, pungent fragrance of the foliage resembles that of the Saluenense series but when crushed suggests the pleasant odor of our western red cedar. The leaves usually are narrow and about one inch long, often resembling Daphne cneorum in both foliage and dense clusters of small, tubular flowers which are often very fragrant. This similarity has been recognized in the naming of one of the species R. daphniflorum. The flower color of the Cephalanthum series ranges from white to pink and rose. R. crebreflorum is a desirable, prostrate shrublet of this group. R. cephalanthum, R. ledoides, R. radinum and R. sphaeranthum are among the more choice and available upright species.

#### SALUENENSE SERIES

All of the members of the Saluenense series come from the high altitudes, 12,000 to 18,000 feet, in northern India and China. Characteristically their leaves are small, roundish, one-tourth to one inch in length and supplied with very pleasantly pungent fragrance that suggests camphor. Many of these, such as R. prostratum, R. calciphilum, R. nitens and R. radicans are prostrate, creeping shrublets. Others such as R. calostrotum, R. keleticum, R. riparium and R. saluenense (from the Salween River) may eventually reach a foot or more in height. The flowers of this series are exceptionally large for the size of the plants, commonly an inch or more in diameter. The flower color ranges through shades of rose and rose-purple to crimson.

#### VIRGATUM SERIES

The Virgatum and Scabrifolium series are two small, related groups of dwarf plants, some of which are of great value for rock garden use. R. racemosum, of the Virgatum series, is one of the most valuable of all dwarf rhododendrons. The rather small flowers are borne in axillary racemes and vary from deep pink to white. The plants vary in stature from tiny shrubs a few inches in height to tall, leggy forms up to four feet. Other forms show variation in size of flower and also in time of flowering which may be any period from March to May. As in the case flowering which may be any period from March to May. As with many other species, it is desirable to propagate the best forms vegetatively.

R. racemosum, var. oleifolium is an early-flowering plant with blossoms larger than those of typical R. racemosum. Unfortunately, this varietal name has led to confusion with the plant of the specific name R. oleifolium. It is to be hoped that this confusion soon will be cleared up. Although the species to which the name oleifolium legitimately belongs is also included in this series, it is of totally different habit. It has rather long, narrow leaves and fairly large, pink to almost white flowers, borne solitarily from axillary buds.

#### SCABRIFOLIUM SERIES

All but one of the six species of the Scabrifolium series strongly resemble R. racemosum, their small flowers being borne in numerous axillary racemes. They all seem to differ from that group in being quite pubescent and of a rather sprawling habit of growth. R. hemitrichotum and R. pubescens are fine, hardy plants with pink flowers. R. mollicum with crimson flowers and R. scabrifolium and R. spiciferum with pink flowers are also desirable but less hardy. R. spinuliferum, the rogue of the series, with crimson tubular flowers, though eventually growing too tall to plant in any but a large rock garden, is one of the most curious of all rhododendrons. The long, crimson corolla tubes which are slightly contracted at both ends, give the flowers the appearance of fire crackers.

#### Ferrugineum Series

From the Alps of Central Europe have come the three species of the Ferrugineum series, R. ferrugineum (Alpine rose), R. hirsutum, and R. kotschyi. All of these have attractive pink or rose, or rarely white flowers. The last-named is the smallest of the three, the first, with smooth leaves, the largest. All are worth-while rock shrublets.

The demand for dignified, well-behaved and attractive rock plants has brought these dwarf rhododendrons into prominence. Several are already in the trade, and it is hoped that as additional species become available, more rock gardeners will come to know the satisfaction of growing them.

## SAXIFLORA

## PLATE 19

Astragalus tridactylicus (Leguminosae)

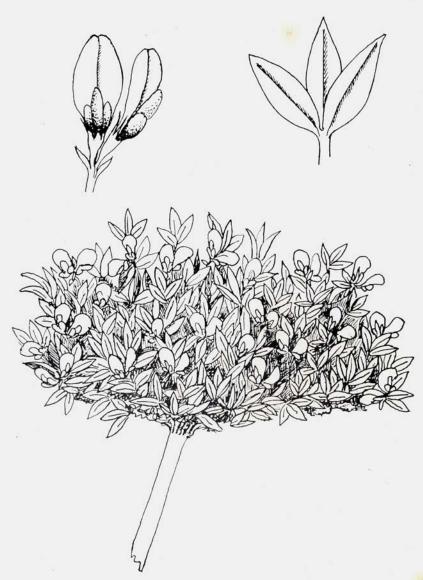
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SAXIFLORA PLATE 19



ASTRAGALUS TRIDACTYLICUS

Tuft about natural size; insets  $\times$  3. Drawn from photograph.

#### ASTRAGALUS TRIDACTYLICUS

In the course of adaptation to infrequent moisture access, as in the relatively dry climates of the Great Plains and portions of the Rocky Mountains, plants in many genera have developed the "cespitose-pulvinate" habit, the earth-hugging cushion form composed of many tightly set rosettes. When sheeted with blossom the discoverer thrills at one of these snug conceits, for its unique beauty and its ideal rock garden character. Among the Astragali this plant habit is seen at its highest perfection in the little group of half a dozen or so which Rydberg segregated into the genus Orophaca.



In May or early June the cushions of Astragalus tridactylicus with its multidinous little pea blossoms appear bright to pale rose with an infusion of lavender.

The writer vividly recalls a trip to a new terrain and the verge of a sun-drenched plateau, in May, where the widely ranging sister plant, white blossomed, silvered green Astragalus gilviflorus (A. triphyllus, Orophaca caespitosa), was frequent, as in the many miles left behind. Then, part way down the very steep and stony slope and almost at his feet, there unexpectedly appeared an Orophaca done in rosy red. Another, and another, and when unbelieving eyes could lift to a larger view, a whole gay company, a few of the white intermingling, and stragglers reaching out and down and beyond the curve of the headland. It could be none other than Astragalus tridactylicus, a very rare plant.

Its cushion is based upon a tap-root with much branched crown and very dwarf stems that branch and rebranch to present their terminal leaf tufts in a closely knit pattern, hardly two inches in height. The species often attains a spread of eight inches and may, in rare instances, become considerably wider. The leaves are grayish with short silky hairs, digitately three-foliolate, the leaflets broadly or narrowly oblanceolate, to as much as four-fifths of an inch long. But the description serves rather to suggest texture than identity, as the plant is virtually indistinguishable from some of the other Orophacas during much of the year. Stems do not die back and leaves go into the winter apparently evergreen. By spring, however, no green remains except perhaps at the hearts of the rosettes where new growth will expand with the first warm days. The old leaves fall when crowded away by the new. It is when in flower in May or early June that the plant becomes individual. Multitudinous little Pea blossoms are borne one to three on each tiny peduncle,-among the leaves, it is true, but quite outshowing them,—the cushion now appearing in bright or pale rose with an infusion of lavender. The show runs for nearly a month.

The natural distribution of Astragalus tridactylicus is on plains of northern Colorado and adjacent Nebraska and Wyoming, with but two known localities in southwestern South Dakota. It grows in dryish shaley clay or a more pasty clay with fine volcanic grit and fine to coarse limestone particles, media largely uninhabitable by other plants. Under cultivation on the plains, adaptability is displayed by its thriving in a friable mixture of clay and sand. Of greater significance for rock gardeners in general is the report that the subject does well in the East in a mixture of two parts loam, two of peat and one of coarse sand; the bed of good depth and built up to five or six inches above surrounding ground; in full sun.

Propagation is by seeds. Plants with a crown of an inch and a half or less are moved readily in early season, and with good success somewhat later, if temperatures can be kept low until growth is resumed.

CLAUDE A. BARR, Smithwick, South Dakota.

Like many other Astragali, this species has been variously classified by different workers.

The following list, kindly contributed by Professor C. L. Porter, presents the synonymy:

Astragalus tridactylicus A. Gray, Proc. Amer. Acad. Arts Sci. 6:527, 1865. Phaca digitata Nuttall. MS. name, not published. Phaca digitata Torrey, Rept. Expl. Exp., Fremont, 89, 1845. Hyponym. Tragacantha tridactylica Kuntze, Rev. Gen. Pl. 2: 942, 1891. Astragalus sericoleucus tridactylicus Jones, Contr. West. Bot. 10:69, 1902. Orophaca tridactylica Rydberg, Bull. Torr. Bot. Club 32:668, 1906.



#### ROVING BELLFLOWER

One of the plants mentioned in the March-April Bulletin under the "what not to plant" heading was the Roving Bellflower, *Campanula rapunculoides* (in Bailey's Hortus II termed "Rover Bellflower," in S.P.N. II "Creeping Bellflower".) The writer wishes to nominate this plant as

Rock Garden Enemy No. 1. About fifteen years ago, three clumps were purchased from a nurseryman who had given it some attractive pseudonym, and a highly alluring description. It has indeed a pleasing appearance, with its numerous deep violet bell-shaped flowers clustered along a rather long stem; and it blooms for a long period during the summer, after the rock garden's spring flower show is over. But it proved entirely too aggressive, and, believe it or not, we have vainly tried to eradicate it for at least fourteen years. Its innumerable branching rootstocks run in every direction; and if, when digging them out, the tiniest bit is left in the ground, a new plant soon arises there, and proceeds to make its own rootstocks.

The accompanying sketch may aid the rock gardener to recognize and avoid it should he ever encounter it in a nursery or in the garden of a generous friend. If it is forced upon him, he had better react like Stephen Leacock did with the "mushrooms," and throw or give it away as soon as he is out of



sight. Even then, however, he may not be safe; for he may purchase a Campanula sight unseen, under a species name not to be found in Hortus, only to find that he has obtained the same plant after all. Since Linnaeus first named this species nearly 200 years ago, fully twenty different names have been applied to it by other botanists who did not recognize its identity.—ROBERT M. SENIOR, Cincinnati, Ohio.

### COMMON PLANT NAMES --- II\*

M. E. Armbruster, Pittsburgh, Penna.

A COMMON name to pass current successfully must obey another law. It must have a regard for the physical measurements of an item, and its consequent association with certain units or groups. For example, we can speak without jarring of the Engelmann Spruce, the Vreeland Oak, the MacDougal Poplar, items in a man's world. We couldn't speak with the same ease, however, of the "MacDougal buttercup," if there were such a plant; because the daintiness of the subject does not match, so to speak, with a modifier connoting scientific exploration. Children love buttercups and you must have a name for them a child can take to. This is a very fine distinction and applies mainly to wildflowers.

In response to a plea from me for a more suitable name for *Viola selkirki* in place of the prosaic and adult-sounding "Selkirk Violet," Mr. Dayton suggested the name Wilderness Violet. This was a most happy selection. It obeys all laws. It suggests the habitat of the plant. It certainly cannot help but be euphonious, for in a nation-wide poll taken in 1939 by an eminent lexicographer as to the ten most beautiful words in the English language, "wilderness" was one of the words which received the most votes.

Names of plants, like the names of our children, should not be colorless or trite. It is unfortunate that Stocks as a name ever got so far in our speech. The plants deserve a nicer designation, and I should like to see the old Gillyflower restored. "Virginian Stocks" also is a regrettable choice for the lovely *Malcomia maritima*. They aren't stocks and they aren't Virginian. "French Forget-me-nots" is worse. A name I have heard of, "Pastelettes," might be considered, for it echoes the diminutiveness and shadings of the little blooms. Here is an excellent example of a worth-while, easily-grown plant being but sparingly used, and for one simple reason: that people don't know what to call it and therefore don't know what to ask for. S.P.N. wisely omitted a common name for this one.

A name which strikes me as most trite is "Goldencup" for Hunnemania fumariaefolia. It sounds gossipy, and jars. The catalogs of Burpee and Dreer list this as satisfactorily as I have ever seen it, Santa Barbara Poppy; but this is against S.P.N. rules. Of course it isn't a Papaver, but neither is Eschscholtzia which passes officially as a poppy; and the flower and foliage of Hunnemania is enough like that of the Eschscholtzia that we aren't transgressing terribly to call it a poppy too. Being monotypic, the chances for confusion practically don't exist.

There must be a definite program for avoidance of similarity in names. S.P.N. was indisputably correct in discarding "Black-eyed-susan vine" for Thunbergia alata and marking it Clockvine. We wish the idea had been carried further, into the "butterfly" items, for instance. There is a Butterfly-palm and a Butterfly-pea and a Butterfly Orchid which are probably all correctly named; this writer is not familiar with them. We are asked to sanction also Butterfly-weed, "Butterfly-bush," "Butterfly-flower," "Butterfly violet," and "Butterfly viola." This is too much. Butterfly-weed (or Butterfly Milkweed, as S.P.N. puts it) is authentic; butterflies

<sup>\*</sup> Part I appeared in Vol. I, No. 2, pp. 47-48, Mar.-Apr. 1943.

hover about it all summer. They happen to like the "butterfly-bush" also, but, happily, we are referring to that shrub more and more as Buddleia, so we can throw No. 2 out. No. 3 is sold in the shops mostly as Poormans-orchid, a name that is not the best but which we should use in preference to confusing it with other flowers. No. 4 is the common meadow violet of our East and is thus self-named. And No. 5 is simply a horticultural form of *Viola cornuta* originally known as Papilio. We ought to keep Papilio as the proper distinguishing mark. These are some of the solutions which can be worked out if we but show the will to do it.

Provincial and rustic names should be avoided and, fortunately, the American people are getting away from them fast. During the past few generations we have seen such bucolic designations as "Youth and Old age," "Patient Mary," "Poor Man's Weatherglass," "Fisherman's Basket," and many others superseded by words of real utility. Others are fast on the way out. But there is a distinction between these and such old-fashioned ones hallowed by time like Jack-in-the-pulpit. These latter may be on the way to the discard also, but it is not for us to usher them out but to let time take care of that naturally.

Often when foreign material is naturalized in America, it will be found not feasible to adopt the common name in use by the country of origin. Acacias and Eucalypti are such examples, being called Wattles and Gums, respectively in Australia. We could not use "Gum" in the latter case because that would confuse with the Black Gum and the Sweet Gum of this country. The Anglicizing of the scientific name was thus a happy circumstance. But sometimes both the Latin and the common name used in the country of origin are too difficult of incorporation into the common speech here. Dimorphotheca is such a situation. Anglicizing that is out of the question, while "Star of the veldt," one of its names in Africa, is not usable here for the reason that the veldt means nothing in this hemisphere. Whether "Cape-Marigold," one of its other names, urged by S.P.N. for the plant, can appeal to the American imagination remains to be seen.

Probably with few other people does the responsibility of assigning satisfactory common names rest so greatly as it does with our West Coast dealers who yearly offer new importations from Latin America and the Antipodes. I urge them to be serious in the style by which they present the public with these new materials. Don't tag them with misleading, saccharine names designed to be catchy, like "Bells of Ireland," "Mexican Jewel Flower," "Fuchsia of the Andes," etc. When introductions are from countries speaking a language other than English, see whether the scientific name can be anglicized, or if the local name is translated, see that the translation does not interfere with the name scheme of other genera. If neither of these methods is satisfactory, then assign a new name commensurate with what it has been known as in its homeland, but let it be at once distinctive and usable. And that means usable not just from the selling standpoint but from a utility standpoint by the purchaser. Consult Bailey's HORTUS. Consult STANDARDIZED PLANT NAMES. Be governed generally by some of the considerations outlined in these articles. If necessary, ask a botanist at your nearest university. Calling things by suitable names is important. It is not too much to say that the whole issue of peace and war can depend upon calling things by their proper names.

## COMMENTS ON ROCK GARDENING\*

JOHN H. HANLEY

In order to appropriately introduce our brief discussion on the subject of rock gardening we should consider (1) the impelling motives which brought it into being and (2) how these motives should be used to guide us in the construction and maintenance of the rockery.

We may suppose, first, that the original idea came from some plant enthusiast who, in travelling the high mountains, became smitten with the intense beauty and individuality of the flora. Having attempted to transplant these interesting individuals into the home grounds with only moderate success he may have conceived the idea of bringing down with them some of the rocks and soils of the native haunts in order that natural conditions might better be simulated. The things to be remembered from this hypothesis are (1) that the plants were of first importance and (2) that the rocks were placed as aids or complements to the plant life.

On the other hand we might justifiedly suppose that the original impulse came from an individual who desired to create in the vicinity of his home a model of some outstanding natural feature, including rock. We may, then, suppose that after its construction he found need for adding the plant life, found growing upon it in nature, in order to increase the sense of realness and trueness. In this instance we find that the rocks or natural mountain features rank first while the plant material is secondary.

In discussing the logic of the two hypotheses we might say that, although our present rock gardens are built not wholly for either one but, seemingly to combine features of both, the first seems more important. It is so nearly impossible to effectively duplicate a natural feature. We conclude, therefore, that the first hypothesis, which requires the subordination of the rock to the plant, is most logical though there is undoubtedly an addition of a part of the second idea so that one does attempt to imitate a natural feature in a very limited, simple sort of way. Effectiveness requires that one duplicate nature to a simple degree only, especially on small properties where space is held to a minimum. Where space is ample and where a natural ruggedness of topography prevails, it becomes more possible to make use of more complicated patterns and designs.

However, since the rockery movement is being fostered wholly by those who gain their greatest enjoyment out of the plants themselves, it remains that the underlying purpose will never be the collection and arrangement of rocks alone; the plants should and will always be of

greater import.

Now that we have set forth the fundamental reasons for rock gardening we may discuss for a moment the application of the basic principles to our present-day method and point out for our own benefit the errors that most commonly follow either a misunderstanding of or a total lack of

awareness of, the original impulses.

Each year there arises a new group of rock garden enthusiasts who because of a lack of knowledge of these fundamentals throw together incongruous stone masses, wholly out-of-place as a rule, and place in the crevices plants of all kinds (annuals, biennials and greedy border perennials). The only justification for such builders is their eager persistence and enthusiasm. Of course all they need is the proper kind of guidance which has taken into consideration the underlying reasons for the existence

<sup>\*</sup> Reprinted from *The Arboretum Bulletin*, of Seattle, Washington, vol. 5, Nos. 7 and 8 with the kind permission of Director John H. Hanley; somewhat abridged.

of rock gardens. With such guidance they could easily be led to create quite reasonable and quite beautiful effects. Their error has been chiefly in the misinterpretation of the implications which attend the original impulses. Let us consider what these implications are.

First, we must assume that the most important of the two motives places the use of rocks secondary and subsidiary to the development of the plant. The rock garden is therefore a place to grow plants and not a place to display boulders for their sakes alone. These statements further imply that the rock has a definite utility value. It is valuable in several ways. (1) It becomes the background for the plant. Thus the rocks taken as a whole, and acting as they do as minor backgrounds for the plants, become the minor background for the entire garden. (2) Furthermore, the rock functions in a much more direct way by setting up a more favorable condition for the growth of the plant. Most everyone has gone into a field in midsummer and, upon turning up a boulder, has observed that beneath it the soil is moist and cool. The stone has interposed itself between sun and soil and has acted as an insulator for the soil's surface against the sun's heat. It has checked the upward flow of soil mosture by capillarity and, instead of permitting it to evaporate, has held it in store so that the roots which extend under the stone may take advantage of it. An alpine plant with its roots reaching far back into such a region of coolness and moisture is able to grow and thrive whereas the same plant, if used in the open border where the soil is exposed to the hot rays of the sun, and where evaporation is unchecked, would have far less chance to survive.

In the natural alpine habitat the rocks perform another service. Water from the melting snow picks up and transports various organic materials, such as leaves and other decaying plant parts. As the water subsides and sinks downward the rocks act as filters (in a rough way) and collect this organic material in the crevices around then. Such material continues to decompose, furnishing needed plant foods, and it also has a very high absorptive ability so that it is able to take up and hold a great deal of water for long periods. Thus the rocks help to create optimum conditions.

The second implication that is emphasized by the aforementioned fundamental principles of rock gardening is that such gardens must be very natural and informal. This is indeed an unfortunate circumstance that is difficult to counteract when planning a rockery on a small city property. Cities are most often laid out on strictly formal lines. That is, they are designed in straight lines or appear in a combination of regular, methodical, geometric figures. Thus the accomplishment of isolation to any degree is rendered almost impossible. Why is it necessary that the rockery be secluded and isolated? For the reason that, without complete isolation, all conception of the natural feature which one has tried to duplicate is lost. An informal garden cannot be set among methodical features without appearing out of place. One should isolate the rockery by planting trees and/or shrubs around its perimeter in order to hide it as much as possible from the surroundings.

From these remarks it also follows that one should not attempt to imitate extreme natural features on small properties. Simplicity should be the rule in any garden; it is even more important on the small city lot. Where one is not limited by lack of space and where one finds natural features such as swales, streams, hills or ridges already in existence then it is possible to use the more complex designs. They will fit themselves better to the allotted space.

You may feel that this discussion advises the elimination of all rock gardens on city properties; that is not so. But you understand that with such a property there are very definite limitations and that to attain the most pleasing results one should avoid the extremes and make use of simple designs. A well-cared-for simple garden will be much more attractive than those of most extreme design—those which are difficult to care for and which do not fit the surroundings.

## IN A LONG ISLAND ROCK GARDEN



BY K. W. BAASCH

The right half of the picture shows part of a scree of a special soil mixture with underground irrigation. The soil was dug out to a depth of about three feet, and the bottom was then filled with old bricks and gravel. The soil mixture over it consists of three parts of grit or sharp gravel, one part garden loam, one part sand and one part humus. The rocks were gathered on the north shore of Long Island and carefully selected and placed, so as to give the appearance of a stratified formation.

On the elevation are growing various Encrusted Saxifragas, including Saxifraga cotyledon, S. lingulata lantoscana superba, S. aizoon rosea and the Kabschia Saxifraga irvingii; also Ramonda pyrenaica, Penstemon rupicola and Campanula portenschlagiana. The round cushion-shaped plant in flower in the upper middle of the picture is Armeria caespitosa and just in back of it is a flower-stalk of a Saxifraga cotyledon forming. Half way up on the left is a shrub, Cytisus kewensis, coming into bloom and in front of it to the left edge of the picture is a large patch of Saxifraga macnabiana. The flowering plants in the upper left beyond the scree are Iberis sempervirens, and above that is a patch of Opuntia compressa.—Kurt W. Baasch, Baldwin, New York.

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#### IS YOUR FILE OF SAXIFLORA COMPLETE?

The Secretary has on hand a number of surplus copies of the first 16 Saxiflora leaflets, which were issued in 1938-1940. The plants included are: Alyssum scardicum, Chrysogonum virginianum, Convolvulus mauritanicus, Daboecia cantabrica, Daphne genkwa, Epimedium macranthum, Erodium chamaedryoides roseum, Gentiana septemfida, Globularia incanescens, Petrophytum hendersoni, Phlox stolonifera, Primula vulgaris, Saxifraga cortusaefolia, Scilla sinensis, Sedum sieboldi, and Verbena pulchella maonetti. The list of authors of these leaflets comprises the following botanists and rock-garden specialists: Alexander, Elliott, Esson, Everett, Free, Gabrielson, Moldenke, Preece, Mrs. Stout, Svenson, van Melle and Wherry.

While they last, we are offering a complete set for 75 cents; or, if you wish extra copies of the leaflets on individual species, they will be sent for 5 cents, in all cases, postage-paid.