

Quarterly of the American
Primrose
Society

Volume XVI

Winter 1958

Number 1



PRIMULA "SONCHIFOLIA"

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THE PICTURE ON THE COVER: The beautiful *Primula sonchifolia* on the cover was photographed by T. C. Clare who tells about this species and others on page 8.

Credit for the beautiful picture of the *Primula Aurantiaca* on the cover of the Fall 1957 Quarterly should go to Mr. Lamar Mumbar of Pennsburg, Pennsylvania, Mr. Mumber's father was a botanist and Mr. Mumber knows and loves plants, especially the native wild flowers. His hobby is photography.

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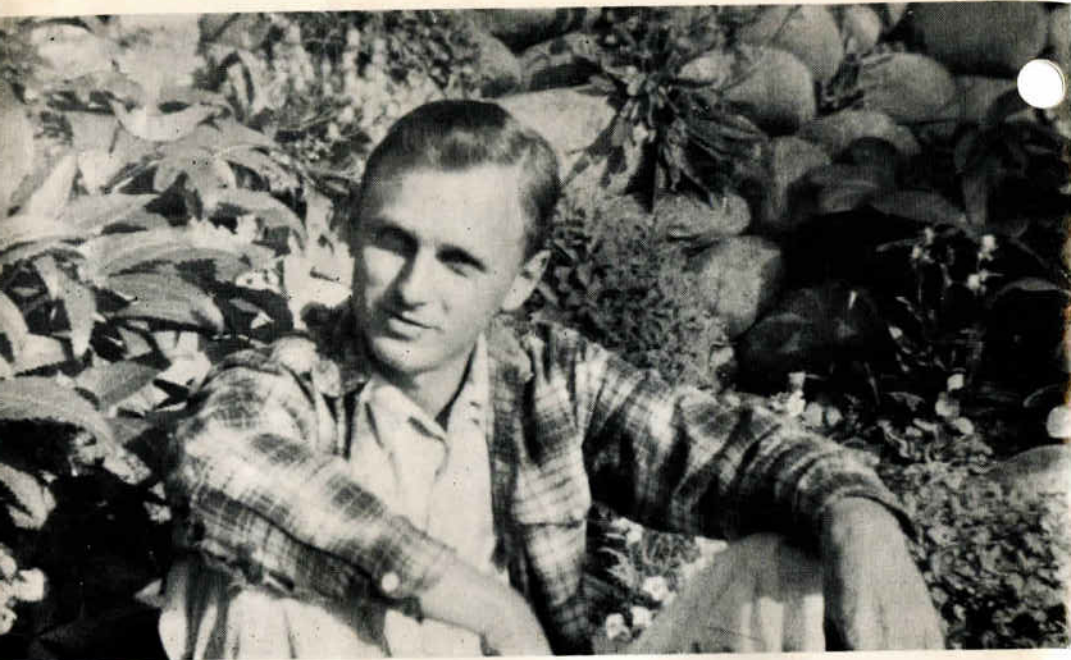
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Cyrus Happy III in his garden

The President's Message

Greetings to each and every one of you.

We are dedicating this new year to a bigger and better American Primrose Society and it is gratifying to report that the membership is growing faster than at any time during the past two years. This is a most important factor in the success of our Society and if each member will make an effort to interest just one new person in Primulas and the Society, our success will be assured.

The Lewis County Primrose Society will be the host for the National Show at the Lewis County Fairgrounds between Centralia and Chehalis this year. Each one of this group is an enthusiastic working show committee member, and special effort should be made by all of us to make this show a success. The excellent highway and central location of Chehalis should provide a record attendance.

May I wish all of my friends at home and abroad the best of good fortune for the new year and good gardening to all.

CY HAPPY

1958 National Officers



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It gives the editor great satisfaction to announce the same panel of officers that served in 1957 will be on the job again for at least one more year.

Mr. Ralph Balcom and Mr. Robert Putnam are the two new Directors. These two men are outstanding floriculturists and the Society should be complimented for having them on the Board.

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Plant Hunter In Alaska

Presenting for the approbation of the American Primrose Society—
Miss Isobel Wylie Hutchison

BY ROLAND E. COOPER

Miss Isobel Wylie Hutchison, L.L.D., of Scottish descent, plant-hunter, lecturer, and author of lyrics, one novel, and four books of travel, who has contributed material mentioned in the "Genus Primula" from the Bering Sea region (*Transaction of the Royal Society of Edinburgh*) of particular interest to the Society.

Miss Hutchison visited Greenland as a plant-hunter on three occasions, first in 1927 to the East and South coasts and again in 1929-30 and in 1935 to the Umanak region and Jakobshavn on the west coast, collecting specimens of plants for the British Museum. Her first travel book "On Greenland's Closed Shore" was published by Blackwood of Edinburgh in 1930.

In 1933-34 she visited Arctic Alaska and travelled from Nome along the north coast by boat and dog-sled to the Mackenzie delta in Canada. Here, too, around Nome she collected plants for the British Museum, including species of *Primula*, *P. eximia*, *P. borealis*, *P. sibirica* Jacq. (a pale pink variety not very frequent around Nome) and *P. stricta* (Hornem).*

The account of her journeys in Alaska and in the Aleutian Islands, which she visited as a plant-hunter for the British Museum in 1936, by help of a United States Coastguard vessel, is contained in three travel books, published by Blackie & Son of Glasgow:

1. North to the Rime-Ringed Sun. 1934.
2. Arctic Nights' Entertainments. 1935.
3. Stepping-Stones to Asia (The Aleutian Islands). 1937.



Mr. Cooper with Oriental Vase

Mr. Cooper writes: "The article I am holding in the photograph is an oriental vase based on the shape of a square bamboo (not the ordinary round sectioned kind) in sections of which the Chinese kept their divining twigs in little bundles which are represented on the vase in groups of eight, either whole twigs or half twigs. No more than eight such combinations can be made. This group of divination symbols the Chinese call "Pa Kwa." (Courtesy of the author)

She contributed some articles on plant hunting to the Journal of the Royal Horticultural Society, the New Flora and Silva, and other horticultural journals. She is also a contributor on travels in various other lands (including the British Isles) to the American National Geographic Magazine.

Among her ancestors the surname "Primrose" occurs, which is an interesting Scottish surname and is found in the small Scottish county of Clackmannan and in Fife, on the Firth of Forth around Dunfermline (birthplace of Andrew Carnegie) near the Forth Bridge. Scottish records show



Miss Hutchison with Eskimo Nurses at Barrow Point Hospital, Alaska.
(Courtesy of Miss Hutchison)

that there were lands of the name of Primrose (the name of their erstwhile owner?) which belonged to the Abbot and monks of the Abbey of Dunfermline from about A.D. 1150. The name of Primrose appears in J. Macbeth Forbes "History of the Primrose-Rosebery family, 1500-1900," while the Scots peerage gives the Earl of Rosebery's descent.

From Miss Hutchison's "North To the Rime-Ringed Sun":

"Seated upon the summit of Anvil mountain, which rises from the tundra three or four miles behind Nome to a height of over 1000 feet, one sees all around to north, east, and west, the snow-invested mountains of the Seward peninsula, topped by the pristine cone of Mount Osborne, a giant of 6000 feet, peering over the saw-toothed northern ridge . . .

"In early July I gathered primulas, the delicate little *Primula stricta*, the taller pale-pink *P. sibirica* — which can be found rarely in the marshes by Snake river — and the sturdier purple variety (*P. eximia*) dusted with her white powder and smelling deliciously, like the "dusty millers" of home gardens . . .

"Sheets of *Epilobium latifolium* L. with its beautifully contrasting sea-green anthers cover the dry slopes of creek-beds and hill-sides in July and an occasional snow-white albino form appears . . . By the Snake River where the third and rarest of Nome's primulas—the pale pink *P. sibirica* Jacq. — is occasionally discovered. *P. stricta* Hornem is Nome's most common primula . . . At Martin Point in the far north of Alaska I found awaiting me the last and most interesting—Alaska's fourth — *Primula borealis* Duby which the trader with whom I had boarded there had gathered (in a little tin) with roots and water before his departure for Barrow, 400 miles distant, in July and which was still flourishing in the deserted cabin when we reached it in mid-September! Little did Mr. Masik (an ex-member of Doctor Stefansson's Canadian Arctic Expedition) think, when he gathered it to decorate his table, that it was destined to end in the Kew herbarium!" from her "The Aleutian Islands":

"Behind the village (Unalaska) a small river twists round under steep green hills to the bay, spreading out some distance back of the village into

a lakelet where in summer the natives and Coast Guard sailors fish for trout and salmon. Beyond the lake the stream continues through a mountainous valley, finding at last its source in the snows and glaciers of the higher tops. To right and left of the valley rise ridges between two and three thousand feet high. Their volcanic slopes are green and fertile, and are clothed to the thousand-foot level with soft mosses and lichen into which the foot sinks as into a carpet of deepest pile. Out of this rises a tall and luxuriant vegetation, composed of species of lupin, arnica, erigeron, achillea, geranium, elymus, aconite, violet, anemone, and other species too numerous to mention here, though the lovely *Geranium erianthum* might be singled out, for it covers the July hillsides with sheets of bluish purple, much resembling our own meadow-cranesbill . . .

"Higher up, as this tall vegetation is left somewhat laboriously behind . . . he comes upon alpine valleys in which the brown-spotted Lady's Slipper (*Cypripedium guttatum*) with her bright twin leaves, foos it gaily amid sheets of the lovely rose-red *Rhododendron kamtschaticum* (one of the finest species in the Aleutians).

"Higher still, and the cream-belled *Phyllodoce aleutica*, a heath-like species with rather large handsome flowers, grows more sparingly on the loftier ridges, where, in bare volcanic soil, may be seen also the little bright-pink *Primula cuneifolia*, the blue lagotis (named Gmelina by Alaska's first botanist Steller), and the rarer *Potentilla Rossii*, a plant with rather large gold flowers and dark-green shining leaves.

On my first morning afield, which took me far up this valley and through a gorge down which a mountain torrent poured, barring at last all further access, I came (for the first and last time in the Aleutians) on some plants of the delicious dust-powdered *Primula eximia*, which Dr. Hulten's

assistant, Mr. George Eyerdamm, describes as "quite rare" in Unalaska. Though I did not find it again in the islands, it is an early-flowering species, and a visitor in May or June might come on it more frequently . . ."

"There are no harbours at either of the two Pribilof islands, and navigation is dangerous, for unless the wind is directly offshore, there is no good anchorage and fog is constantly prevalent. The islands are the southern limit of ice in the Bering Sea, and detached ice may be met with in this region from February to May.

"The coast of St. George Island, save for a few miles, consists of precipitous cliffs . . . St. George has not been as well explored botanically as its better-known neighbor St. Paul, and I much regretted that I had to leave its friendly shores with only a glance at its treasures.

"Hurriedly I gathered the white arctic marguerite (*Chrysanthemum arcticum*), much more common here . . . than on St. Paul, where I only saw it in one spot; the pretty blue Jacob's Ladder (*Polemonium acutiflorum*), frequent around Nome; and the seed-pods of the now faded *Primula eximia*. Another species of this fine flower (called, after its finder James M. Macoun, *Primula Macounii*) is said to flourish on St. George. This botanist explored the islands in 1891-2 and again from 1896-7, and made a collection of 182 phanerogams and vascular cryptogams, the list of which was afterwards shown me at St. Paul by Mr. Christoffers. In the same volume it is stated that Mr. Charles Bryant made a small collection in 1875, now in the United States National Herbarium at Washington and the Gray Herbarium; and in 1890 Mr. William Palmer collected about 100 species."

"Amchitka Island is rather different in character from the western Aleutians, being low and undulating. As the *Chelan* remained at anchor here for a couple of days I was able to ex-



Primula Eximia—not uncommon at Nome
(Courtesy of Miss Hutchison)

plore it to some extent. The yellow-grey *Cladonia Alpestris*, one of the reindeer mosses, formed the groundwork of the moors, into which the foot crunched as if walking on snow. It was mixed with empetrum and calamagrostis, and from it protruded such late-flowering plants as the purple aster, yellow arnica, campanula and *Platanthera hyperborea*. I also gathered ripe seeds here of the pretty *Primula cuneifolia*, which still showed a few rose-red blossoms, as well as of the aster and *Geranium erianthum*."

As a final point of interest to Americans through Miss Hutchison, I am permitted to state that her sister wrote a novel and travel book on North America under the pen-name of Hilda S. Primrose (her baptismal name).

Thus do I most imperfectly present to the Society Miss Isobel Wylie Hutchison, L.L.D., F.R.S.G.S. of Carlisle, Kirkliston, West Lothian, Scotland.*

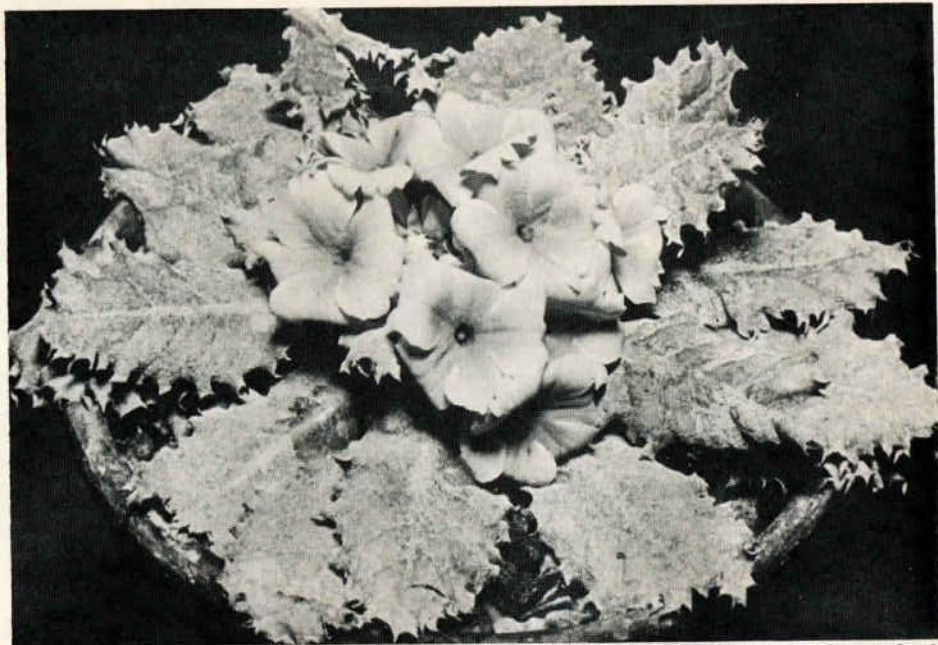
* Footnote. See transactions of the Royal Society of Edinburgh. Vol. 61. Part 1, 1942-43.

The Genus *Primula*: Section *Farinosae*.
By Sir W. Wright Smith and H. R.

Fletcher, Ph. D., D. Sc. Page 10. "In Miss Hutchison's paper . . . the plant is referred to as *P. stricta* and the most common species at Nome. It approaches so closely to the widespread *P. mistassinica* that we would assess it as a slender or pink-flowered variety of that species."

Writing to Miss Hutchison in May 1952, the late Sir William Wright Smith remarks: "You will remember that there was a very tiny specimen in your collection that was named *P. stricta* at Kew. This little plant appeared again in what was apparently a mixture in the collection made by Miss Reat (Nome). In that collection there was quite typical *P. borealis*, a slender form which has been called *P. parvifolia* and a third one which corresponds to the so-called *P. stricta*. In my view *P. borealis* and *P. parvifolia* are scarcely separable. On the other hand, according to Hulten, he does not see any specific difference between *P. parvifolia* and what has been called *P. stricta*. So between us we seem to link up all three within one broad unit. This seems rather difficult to believe but meanwhile it is the answer. In the conditions prevailing at Nome, certain situations seem to produce large flowered plants and less favorable conditions produce very dwarf representatives."

(Dr. Eric Hulten of Sweden is author of *The Flora of the Aleutian Islands*.)



Primula aureata (Courtesy of the author)

The Petiolares Section In England

Mr. Clare is not only a Primula fancier and Nurseryman but, as you can see, an expert photographer.

BY T. C. CLARE

I enclose four photographs of members of the Petiolares section of Primulas which in England are, to say the least, tricky to grow. I have never yet seen *Primula aureata* grown in England. This does not say that it is impossible, as it is still a very uncommon plant.

As your climate in the States varies to such a vast extent in the different areas, it is difficult for me to write on the cultivation of the Petiolares group. Coming as they do from the high mountain areas of the Far East, they have two main requirements—any amount of moisture at their roots during the growing season and dryness at the Crowns during winter. In England, therefore, they are nearly all pot or pan grown, but in certain parts of

Scotland they can be grown outdoors with comparative ease.

Two of the photographs are of lifted open ground plants. *P. Edgeworthii alba* was an open ground lifted clump from the garden of Col. Knox Finlay of Keillour Castle, Methven, Perthshire, Scotland, and the picture of *P. sonchifolia* was also an open ground clump from the nursery of Mr. Jack Drake of Aviemore, Inverness, Scotland, who was awarded the George Forrest Memorial Medal for the plant at the Scottish Rock Garden Club's Show at Edinburgh in April 1955.

The plant of *P. bhutanica* was exhibited at the Alpine Garden Society's Show in London also in April 1955 by Mrs. Saunders, who lives in Kent, and who was awarded a cultural cer-



Primula bhutanica (Courtesy of the author)



Primula Edgeworthii alba (Courtesy of the author)



Primula allionii

(Courtesy of the author)

tificate for her plant, which was pan grown.

In England, unfortunately, at least in the South, with the exception of *P. Edgeworthii* and *P. gracilipes* which, with great care and covering with glass in the winter, can be grown outside, all members of the group have to be pan or pot grown and shaded during the summer with plenty of water, and completely covered during the winter, just keeping the roots moist. They flower for us in a normal year in February, March, and April, according to variety.

It is very difficult from an Island like ours to make any suggestions as to how to grow the members of this rather difficult but extremely beautiful section of Primulas but, basically, as already mentioned, they need abundant water during the growing season and shade on their foliage, with comparative dryness during dormancy, both above and below.

Beauty the plants have in full measure. *P. sonchifolia* is a delicate lavender color with a strong violet eye.

P. bhutanica is a pale skyblue shading to pure white with a yellow central eyed, but it can be seen from the illustration that the pistil is fully extended, even from the very immature buds (see right of photo). *P. aureata* is a yellow cream shading to deep orange at the center with again a heavy creamy farina on the leaves. Unfortunately, with the exception of *P. sonchifolia* the stems of the flowers are rather too short for perfection, especially in *P. aureata*.

The Petiolares group of Primulas is one of the largest, but owing to the difficulty of their cultivation, there are only a few which are regularly grown by even the most expert gardeners.

The last illustration is of *P. allionii*, a good rose pink form of a variable and difficult plant. Again like the Petiolares group it requires plenty of water at the growing season.

Primroses in the Far North

Showing that a clever grower can achieve success with Primroses whether it be California or Alaska

By JOSEPHINE HANSON

Primroses, along with pansies, "flags" and other flowers, grew in my mother's garden in the State of Washington when I was a small girl, but the intervening years in Alaska had all but obliterated them from my memory. Occasionally I would pause to look at pictures of them in the seed and garden catalogues but passed them by, regretfully, for I had no idea that they would thrive up here. Then, about six years ago we were living in California and I bought a large flat of polyanthus seedlings from a nursery. These were planted along a shady trail in a manzanita grove in the back yard, where they grew to magnificent size and gave so much pleasure that I couldn't bear to leave them behind when we returned to Alaska. I packed the roots of a number of plants in damp cotton and brought them north with me to the Bristol Bay region. The winters there are no more severe than in the Anchorage area, but even during the summer there are strong winds blowing in from the Bering Sea. The polyanthus were planted in boxes of soil and kept in a daylight basement. They bloomed in late February, just as they had in their California home. In May, I decided to plant them outdoors for the summer. The boxes were left outside for a few hours, and when I went back to them the primroses were nothing but dried shreds. The strong winds had ruined them.

Not long after this, we moved to our present home near Anchorage. A half dozen plants were sent to me by air from my California garden and were planted outdoors in early October. We had an unusually heavy

snowfall that winter, accompanied by long periods of sub-zero weather. In April I could wait no longer, and shoveled down through about four feet of snow to see how my pets had made out. How delighted I was to find them looking as fresh and green as if it were really spring! In May, as soon as the snow had melted, they made rapid growth and bloomed profusely. That settled it—I must have more. I ordered polyanthus transplants from Oregon to be sent by air, with a few auriculas and denticulatas. These were planted at the foot of a gentle east slope, where they were protected from our coldest winds by trees on the north. The spot where they were planted was composed of a good porous woods soil, with a thin layer of our ever-present clay below, then gravel, but the drainage was good. Well-rotted manure, hauled from a farm sixty miles away, was incorporated into the top soil. (How doubly valuable and dear are the friends who live on a farm!) The transplants made good growth all that summer with our days of almost perpetual sunlight during June and July, and in September the bed was mulched with a thick covering of old manure. Enough snow usually arrives before the extreme cold so the plants have ample protection, even though the temperature may sometimes drop to -40° . The following spring, as soon as the snow had melted, the auriculas showed their fat buds. They were the first of the primroses to bloom, and how delightful they were—the first I had ever seen, and with such heavenly fragrance. Next came the polyanthus, and such a dis-

play they made—as though a florist shop window of flowers were set down in the garden. The denticulatas, too, were lovely. The primroses were the first flowers to bloom in the garden, which made them doubly welcome after the long dreary winter. Then, too, they have form, color, texture, and last but not least, fragrance. It is a peculiarity of our Alaskan flowers that they lack the fragrance they have when grown in the States.

Now I was really under the spell of these marvelous flowers. I joined the American Primrose Society, sent for any books I could find on primulas, and ordered seeds. Early last spring—far earlier than necessary, really—I planted seeds of polyanthus, auriculas, and denticulatas in boxes and set them outdoors beneath the snow to freeze. The family pets immediately discovered them and ruined several of the flats. The other boxes were placed out of reach of the pets, and early in May the little seedlings pushed through. These were left in the flats and transplanted to their permanent position in the open ground during the rainy season in August. This coming spring I shall see them bloom for the first time.

Last May I decided to try some of the candelabras and ordered transplants. They arrived the day after they were shipped from Oregon and were

immediately planted on the west side of the house where the ground remains damp. These were actually more like full-grown plants and many were in full bloom when they arrived. They wilted a bit but revived in a few days and grew to an enormous size during the summer. I must wait for spring to see if they survive but, since they are supposed to be as hardy as the polyanthus, I feel quite confident that they will live through the winter. Also, we are having the warmest winter weather that I can recall in this area, and I can recall too many! The temperature has not yet dropped to zero, and the winter is half over. I made room near the candelabras for some auricula transplants which were planted in September. Gravel chips were mixed in the soil for the auriculas. I also have a number of auriculas which I started from seed but these were so tiny that I was afraid to leave them outside all winter, so have them stored in an unheated garage. I have quite a lot of seed of different varieties stored in the refrigerator which I will begin planting in February or March.

One of the outstanding gardeners in Anchorage has told me that she tried growing primroses but they did not survive the winter. Some plants I gave a friend in the Matanuska Valley area also perished. In both instances I believe it was due to being planted in exposed positions. I firmly believe that as long as primroses have a blanket of snow or other protective material to protect them from drying winds they will survive any amount of cold. To emphasize this point, I would like to cite the experience of a neighbor of mine who is the most accomplished gardener I have yet met in Alaska. She moved from Anchorage to Palmer, in the Matanuska Valley area, and took with her some of her primulas. She grew auriculas, polyan-

thus, and Juliana hybrids, and had them blooming in April. Before the onslaught of severe cold, her plants were mounded about the base with about four inches of sand and cinders. She suggests that any similar material would do as well—anything to anchor the plants. The wind blows forty to fifty miles an hour in Palmer and blows away any snow covering. She used this same covering for phlox and other perennials not commonly grown up here. Although the sand and cinder mixture would freeze solid, her auriculas stayed green all winter. The auriculas bloomed first, and then the polyanthus. All her plants came through the winter one hundred percent with this covering. She found that her Juliana hybrids were extra hardy. Among the Julianas, she had "Nettie Gale" and "Lollipop," besides others, which she said were extremely beautiful.

Later she moved to Cordova along the Alaskan coast where the rain averages 181 inches per annum. There was very little snow covering, but freezing rains and winds. The so-called "soil" was composed of either rock or muskeg. There was a rampant growth of conifers, but no deciduous trees. Her home overlooked Orca Inlet and the back yard was composed entirely of rock. She experimented with making her own soil and tried eight or ten different mixtures, using mica, muskeg, and sand, and sent for some vermiculite to hold the moisture. She even mixed glacial silt and sand brought down from the Copper River Basin twenty-seven miles away. Here the same method of covering the plants with sand and cinders was used. The ones covered in this manner survived, but the ones left bare perished. Candelabras, polyanthus, Julianas, and auriculas were planted. The auriculas were definitely the hardiest. A few of the polyanthus, even though covered, were weak.

Incidentally, long-time readers of the Quarterly might be interested in knowing that although Mrs. Craft*, a former Alaskan member, is no longer living in Cordova, her primroses are still flourishing there. Those residents who have built a garden spot and have primroses received their "starts" from plants originating in Mrs. Craft's garden.

As I look out upon my garden in the winter, with the primroses sleeping beneath their deep blanket of snow, I am reminded of something Florence Levy once said: "there exists a special feeling of affinity between the gardener and his plants," and, knowing they are protected from their enemy, the icy winds of winter, I turn away, reassured, to wait impatiently for spring when I shall see them once again.

**Editor's Note — Long-time members will remember reading a letter from Mrs. Craft while she was residing in Cordova, Alaska, printed in the October 1944 issue of the Quarterly.*

IN MEMORIAM

We do not know who it was who gave the name "Nettie Gale" to our hybrid Juliae, but we are sure that of all the honors, the nicest if not the greatest is to have a flower named for you.

This was brought to mind when the clipping arrived, sent to us by Ivy Agee, telling of the passing at 89 of little Nettie Gale.

Nettie Gale was a good gardener as well as plant hunter and it will benefit all of you to read her short article in the July 1950 Quarterly, "Grass Clippings Mulch."

Nettie Gale knew where all our western wild flowers could be found because she had found them herself, and from now on we shall be prouder of our "Nettie Gale."

Amendment to the Constitution

At the Annual Meeting of the American Primrose Society in Seattle, Washington, October 25, 1957, it was voted to amend the Constitution by addition to Article III, Section II of the By-Laws, as amended (page 144, Fall Quarterly 1956): Active membership dues may be had for *three years by payment of \$10.00 in advance.*

Peter Klein, An Appreciation

Peter Klein's last great pleasure was the winning of the Bamford Trophy. Here the donor of that trophy pays his respects.

BY DAN BAMFORD

I felt very sad when I heard that Peter Klein had crossed the border. I had never met him, even in correspondence, but I had a great admiration for him as a horticulturalist. This was enhanced when I read his many notes in the Quarterly of the A.P.S. and his recordings of success in cultivating and hybridizing many of the difficult Asiatic Primulas. His success in hybridizing many of these species made me sit up and take notice.

I first heard of his passing from Wilbur Graves, who replied to my letter on behalf of Peter Klein's family. No man could have spoken more highly of Pete than he did. A few days after the arrival of this letter Mrs. Agee notified me of Pete's death and nobody could have paid him a more gracious tribute than she did. Both these members spoke of his kind and gentle nature. The A.P.S. has indeed lost one of its outstanding members. I have since looked several times at the picture of him receiving the trophy from the hand of Mr. Cyrus Happy, and as I examined his features under my magnifying glass, I could clearly see the look of pleasure on his face, but at the same time I suspected he was a tired and sick man. It must be a consolation to all members that he lived long enough for you to honor him to the full and finally for him to receive his trophy. I cannot write of all of his achievements, that is something only you in America can do. What I can say is that his success in raising double primroses and develop-

ing the Gold Laced Polyanthus proves beyond doubt that he had a soul perfectly tuned in to the more refined treasures of the past.

The American Primrose Society was fortunate to have such a member and it is up to all of us to emulate him and so leave the world a little brighter and happier than when we first entered it. Many, many pass on without leaving a slight ripple on the affections of those they have known. Not so Pete. At every show you attend in the years ahead you will think of him as the gentleman he was.

Peter Klein has now enriched the great majority over yonder, leaving all members sadder and the world poorer. He has passed through that narrow gate all right, I have no doubt about that, but I know he has left behind a little garden of remembrance in the heart of every member of this Society. There will be none among you who will not say that you would gladly have him with you longer, if only for a short time, but as that cannot be, I know you will say with one accord, "It was well that he passed our way." I am sure that the sympathy of the whole of this Society will go out to his family in their sad bereavement.



Make Your Own Naturalistic Garden

Our own native flowering plants have their own very special appeal.

BY KATHERINE S. TAYLOR

Would you like to have a naturalistic garden of native flowering plants? Have you always thought that a woodland plot or other natural habitat is necessary to grow wild flowers? Surely many gardeners have thought positively about these queries, only to abandon the idea because such an area was not available.

On the other hand, many wait to retire to the country, but when the time comes they do not have the energy to undertake such a project. Yet, if you are willing to create your own substitute for a natural garden and be satisfied with the best imitation possible, then you, too, can start to make your dream of a wild garden a realization.

These were the circumstances under which my garden was planned and planted. Year after year, unaffected by weather or insect pests, it is an unfailing source of satisfaction and delight from the time of the first adonis, hepatica and species crocus until the gardening year ends with gentians, fall crocus and the wild cyclamen.

Considerable perseverance, imagination and skill are required to simulate the natural habitats of favorite wild flowers. A pink lady's-slipper under a pine tree is the popular idea of a wild garden. This type of garden is impossible to imitate because of the restricted requirements of plants of



Blue phlox (P. divaricata), creeping phlox (P. stolonifera) and Primula sieboldii alba enjoy the moist root run between rocks provided by pool and running brook.

(Courtesy Horticulture magazine)

the coniferous forest where these lady's-slippers grow at their best. Intensely acid soil which contains a fungus associated with the roots of these woodland plants is a condition which cannot be duplicated artificially. Innumerable efforts of wild flower lovers to transplant these orchids to their gardens end in failure within five years, usually after two.

Although the strongly acid coniferous forest is difficult to duplicate, the moderately acid conditions of a deciduous woods can be achieved, so that many wild flowers from such habitats will feel at home. In preparing a garden for these plants, attention must be given to their needs for light and moisture. Then select trees and shrubs, which form the backbone of the garden and provide shelter for the more fragile wild flowers. Because deciduous trees do not leaf out until spring has advanced, flowering plants beneath them have an opportunity to benefit from the sunlight needed for blooming.

For contrast include both evergreen and deciduous plants. Relatively small-growing trees such as the Carolina silverbell (*Halesia carolina*), flowering dogwood, witch-hazel, birch, pussy-willow, hornbeam, sassafras, hemlock and red cedar are appropriate.

Thus, flowering crab-apples, Washington thorn, magnolias, Japanese cherries, Japanese dogwood (*Cornus kousa*), Chinese witch-hazel (*Hamelis mollis*) and sourwood (*Oxydendrum arboreum*) are trees that can be planted to add interest.

Dwarf cypress, Irish yew, leucothoe andromeda, mountain-laurel, dwarf euonymus, Japanese holly, azaleas, rhododendrons, blueberry, bayberry, red-vein enkianthus, evergreen barberry (*Berberis verruculosa*), potentillas, cotoneasters, boxwood, rhodora, wild roses, spicebush, clethra, and viburnums of various kinds comprise the shrubs in my garden.

For the wild flowers to flourish, a source of constant moisture was provided by a small bog at one end of the

pool and a tiny brook that runs continually from early spring until fall.

The brook was constructed by hollowing out a shallow trench, which was lined with puddled clay from a river bottom. This made it possible to plant wild flowers along its edge, with no danger of being washed out by floods. This compensates, to a considerable degree, for the fact that the brook is not natural. The brook ends in a bed of yellow flag (*Iris pseudacorus*) and Japanese iris, whose roots absorb any excess moisture.

Plants for Boggy Areas

A leaky wall built across one end of the pool provided a suitable bog area for pitcher-plants, meadow-beauty cardinal-flower, creeping snowberry and wild calla planted in peaty soil. The surface of the little bog has become covered with sphagnum moss, thus affording congenial surroundings for the plants. Water-lilies do well in the pool with a few plants of arrow-head.

Practically every wild plant brought into the garden since it was started, about twenty-five years ago, is still flourishing. Most natives, collected from areas where they grow abundantly, include bloodroot, snow-trillium, bellwort, wake-robin, spring-beauty, yellow violet, yellow lady's-slipper, dog's-tooth-violet, blue cohosh, baneberry and many ferns. Dutchman's-breeches does not grow without some lime in the soil.

The soil consisted of rather heavy clay, poorly drained, moist for most of the year and moderately acid. The accumulation of leafmold and compost over the years has greatly improved the soil structure and gives a permanent mulch. Trailing arbutus, bunchberry and plants which require highly acid soil will not grow in this environment, but have been made happy in a natural area elsewhere where the pink lady's-slippers are coming in on their own.

Special appeal in my wild garden is created when flowers usually found

Primroses, phlox, forget-me-nots, trilliums, sweet woodruff, and other wild flowers combine with azaleas, silverbell, and birch trees to make a gay spring picture.

(Courtesy Horticulture magazine)



in formal plots are effectively used in this naturalistic setting. The lungworts, *Pulmonaria saccharata*, the pink *P. saccharata* Mrs. Moon and *P. augustifolia*, are among the earliest to bloom, following *Adonis vernalis*, which flowers in early March with the snowdrops. Spring vetch (*Lathyrus vernus*) and Virginia bluebells (*Mertensia virginica*) are at home among the bloodroots and other natives. The western erythroniums have become established.

Although blue phlox (*Phlox divaricata*) is a splendid plant, a more useful one, with blue flowers is creeping phlox (*P. stolonifera*) which forms a perfect ground cover. Sweet woodruff is attractive for its flowers and foliage, though it spreads quickly.

Use Ground Covers

Ground covers are very important in the wild garden, where no areas

should remain bare. They help to maintain humidity and protect the wild flowers from drying winds. Annual forget-me-nots take over every unoccupied bit of space.

One of the most satisfactory plants for the shade is epimedium, with barberry-like flowers in yellow, white, red, buff and pinkish-lavender. Its compound leaves are very handsome, making it an attractive ground cover throughout the season. The dwarf *Iris cristata* and *I. gracilipes* also are well suited to shady locations.

Although the native wood anemone fails to bloom after transplanting to the garden, other anemones are delightful along the banks of the little brook in early spring. Among them are the yellow *Anemone ranunculoides*, the dark blue *A. apennina*, the pink *A. blanda rosea* and the lovely

lavender *A. nemorosa*. The lesser celandine (*Ranunculus ficaria*), with bright yellow, shining petals, blooms with the anemones, but keep only a little. The small bulbous roots multiply insidiously, forming large mats which may be temporarily forgotten, because the foliage disappears soon after the flowers have faded. Lesser celandine will kill out choicer plants.

The various primroses are all happy in this moist, shady environment. The round heads of lavender or white *Primula denticulata* come first, soon followed by the bright *P. Rosea*. Then come *P. acaulis*, *P. Veris*, *P. vulgaris*, *P. polyantha* and the choice *P. auricula*. *P. sieboldi alba* is very beautiful, with its umbels of large white flowers and distinctive leaves with scalloped edges. It almost forms a ground cover, since it increases by runners and by seed.

In addition to the western erythroniums, the western camassias also do well in the garden. Other interesting spring bloomers are shortia, pasqueflower, Lenten rose (*Helleborus orientalis*), twin-leaf (*Jeffersonia diphylla*), celandine poppy (*Stylophorum diphyllum*), double bloodroot, dwarf bleeding-heart, especially the white, European wild ginger and many of the conventional spring bulbs which form sheets of yellow and purple along the paths. English blue-bells (*cilla nutans*) and narcissus W. P. Milner are special favorites.

There are always ferns to keep the garden cool and shaded. Cardinal-flower, from the bog, sows itself in all sorts of places, some of the best plants appearing in the driest parts of the rock garden in full sun.

Harebells Everywhere

The great blue lobelia (*L. siphilitica*) and its white form are almost pests and have to be pulled out from the edge of the brook. Harebells come up everywhere in crannies among the stones and blossom up to frost. Meadow-rue, rose-mallow, turtle-head, ironweed and turk's-cap-lily are favor-

ites among the tall perennials. The Canada lily has not yet become established.

In August, the delicate flowers of European cyclamen (*Cyclamen europeum*) suddenly appear in shady nooks, followed by the Neapolitan cyclamen (*C. neapolitanum*), which last from September to frost. This cyclamen makes broad clumps of intriguingly marbled foliage, studded with qualities of pink or white flowers. It is a perfect treasure for a naturalistic garden. With it appear the late gentians, belated lobelias, the dark blue leadwort (*Ceratostigma plumbaginoides*), blue eupatorium, fall crocus and colchicums.

The colorful fall foliage of such shrubs as enkianthus and blueberry and the bright fruits of cotoneaster, dogwood, thorn and crab-apple end the season with a gay note. After a killing frost has taken the last flowers, most of the wild garden is covered lightly with pine needles. This brings the plants safely through the winter.

(Reprinted from HORTICULTURE, May 1956. Mrs. Taylor is President of the New England Wild Flower Preservation Society.)

SORRY

Following the review of Mr. C. G. Haysom's book "Florists' Auriculas and Gold-Laced Polyanthus" by James Stuart McLees (p 140 Fall Quarterly 1957) the name of the publisher was inadvertently omitted. The book is published by W. H. & L. Collingridge Ltd., 2-10 Tavistock St., Covent Garden, London, W.C.2, England.



Have you sent your 1958 dues to the Treasurer? You know you can now send in \$10.00 and forget about dues for the next three years.

Letter From Vermont

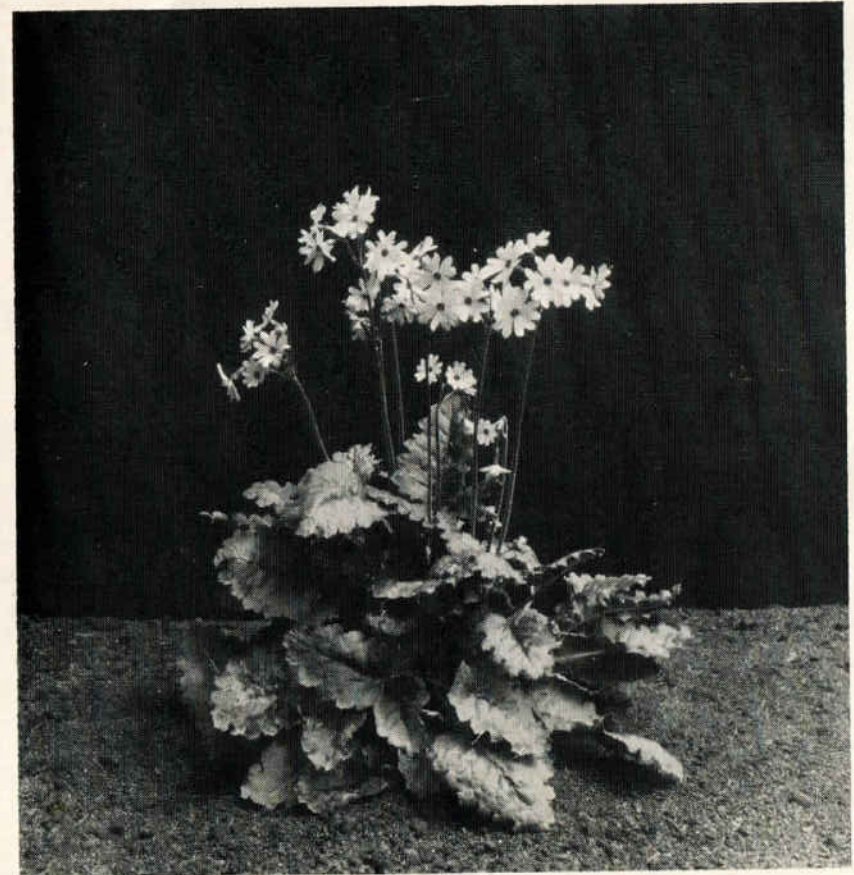
Grown in a spot where it can self sow freely, *P. saxatilis* is only one of the many reasons we love *Primula* so much.

By ALICE HILLS BAYLOR

I have had a little unnamed member of the *P. cortusoides* group in my garden for many years. It has long been a favorite as it blooms in May, giving a splendid display of bright pink flowers on a six-inch stem above the light green crinkly foliage. The remarkable characteristic about this plant is that it continues to throw flower stalk after flower stalk all summer and in September decides to make

a special splash of color! Today, November 22, there is a snow storm in the Green Mountain State and *P. cortusoides* has a member in bloom. In the morning very likely there will be a bright spot above the snow as the color deepens as the season advances.

Last winter I had some correspondence with Mr. Chester K. Strong, of Loveland, Colorado, concerning members in the *cortusoides* group and I



P. Saxatilis, taken at Berkeley, California, April 13, 1924
(Courtesy of Dr. Walter C. Blasdale)

told him about the unnamed resident in my garden which had come to me in a packet of seed some years ago. Mr. Strong very kindly offered to identify the plant for me. Last spring I sent him three good-sized plants and he, in turn, sent one plant to Mr. Ralph Balcom of Seattle, Washington.

A letter from Mr. Balcom states, in part: "After considerable thought I have concluded that your plant is *P. saxatilis*. Since I have some plants that I bought as *P. saxatilis* that were to bloom a second time, I wanted to wait until they were in flower in order to compare them minutely with your plant. This I have done and pressed one and am mailing it to you so that you may also compare the two. The scape on my plant is a bit thicker than yours but I found some of my other *saxatilis* plants with quite slen-

der stalks, too. Otherwise, the leaf margins, shape of blade, color of flower, and all other characteristics seem almost identical.

"Most authorities state that about the only difference between the two species is that the pedicels of *P. saxatilis* are decidedly increased in length while the capsules are maturing. So, I waited until my plants started to develop pods and, sure enough, as you will see from the specimens I am sending you, the pedicels do lengthen very considerably. Assuming your plant does the same, I have concluded that both plants are species *P. saxatilis*."

I am most grateful to both Mr. Strong and to Mr. Balcom for their work in identifying this plant. There will be seed in the exchange.

Fluorescent Lights For Seedlings

A successful landscape architect in Vermont tells how she uses fluorescent lights.

BY ALICE HILLS BAYLOR

I have read many articles on the growing of plants and seedlings by the use of fluorescent lights, all of which impressed me as being such complete success stories that I was induced to try my luck.

Last January I had three 36" lamps installed with pulley lifts in our basement. Under the lights we put a bench mounted on wooden horses at a convenient height. The bench had a wooden frame two feet high on three sides on which I tacked aluminum foil for reflected light. A fourth side was made to hook on so that it could be used in the front and taken off when one wished to work at the bench. The temperature in our base-

ment is between 50 and 55 degrees which proved perfect for the growth of seedlings.

On November second I sowed seeds of six varieties of Primroses in separate clay pots and placed them in wooden boxes out of doors. By December sixth I had finished sowing twenty-seven more varieties and did likewise with the pots. By then we had good snow coverage and I brought in the pots put out in November. These boxes were placed under the bench in the basement. Every morning for a week I put a heavy layer of snow on top of the pots and the snow would be melted by the following morning. Within ten days the auric-

ula seeds began to germinate. I placed the pots under the lights with four inches allowed between top of pot and lights. To my astonishment the seedlings grew like the proverbial weed! As the seedlings formed the second leaf they were lifted from the pot with a pickle fork (my most valuable seedling tool) and planted in flats.

The soil in the pots was lean with grit and with shredded sphagnum moss as a topping. The soil in the flats was one-third garden loam, one-third sand, and one-third well-rotted sifted cow manure. The remaining pots were brought into the basement and placed under the bench during January and the same procedure of snow treatment used. Acaulis seed was the last to germinate, taking about a month. *P. involucrata* seedlings were transplanted into flats March 25th.

Now the success story stops! During March I noticed a mold on the sides of the flats as I had over watered. I used a fungicide drench, separated the flats for better circulation of air, and put an electric fan about ten feet away from the bench but the mold continued in about two-thirds of the flats. These were brought upstairs to dry out. Over half of the flats had to be discarded, new soil mixed and seedlings, then about the size of one's little finger nail, transplanted in slight-

ly moist soil and replaced under the lights. Every seedling survived and grew with astounding rapidity.

In May the flats were moved out of doors and placed in frames with plastic sides which extended a foot above the top of the flats for protection from the wind. In June, when the seedlings were hanging out of the flats like too many fledglings in a nest, they were planted in the terrace garden in well prepared Primrose soil. In August many came into bloom, while *P. saxatilis* was in bloom a week after being transplanted into the garden! Now, September 20th, I have what appear to be two-year-old seedlings and the acaulis are in bloom as are many of the polyanthus.

At this point the story is again a success but the price for success was almost ten hours of work a day during the March period of transplanting because of mold. The problem was moisture. I had used what I considered great restraint in watering while following the advice of others. I found the top of the flat had to "seem" dry before using water.

I have transplanted more seedlings than one could enumerate but never before have I had such husky plants with such well developed root systems. Fluorescent lights develop seedlings better than any method I have pre-

(Continued on Page 28)

NATIONAL AURICULA AND PRIMULA SOCIETY, Southern Section

Invites all Auricula and Primula lovers to join this Old Society
Membership of \$1.50 per year includes Year Book (now ready)

Hon. Sec. Mr. G. Redvers Williams,
Mount Pleasant, Eastbury, Newbury, Berks., Eng.

NATIONAL AURICULA AND PRIMULA SOCIETY, Northern Section

Invites all Auricula and Primula lovers to join this Old Society
Membership of \$1.50 per year includes Year Book

Hon. Sec., R. H. Briggs,
Springfield, Haslingden, Rossendale, Lancs., England

QUESTION AND ANSWER DEPARTMENT

Q. I would like to know why good show auriculas do not open flat sometimes, as they are supposed to. All the blossoms on a Holmsley green remained a little cup-shaped; also Embley gray.

A. Cupping is due to cold weather and cold nights while the pips are opening. It must be remembered that the pips of the edged shows are made of leaf material which is heavy and tough and it takes the right amount of food and sunshine to open them flat.

This question is so important that the following letter on the subject from our President, Cyrus Happy III, winner of the Bamford Trophy in 1956, is printed *in toto*.

Dear Charles: I hope this will ease the disappointments that so many new growers have felt with the first blooms. It takes several years experience before the process is thoroughly understood, and that is why growing auriculas is a year-round hobby.

Holmsley was the first green edge I tried. It has never failed to bloom and with at least five pips. Never once has it been cupped. Cupping is usually due to cold weather and cold nights. Just one night in a warm kitchen followed by a little pressure on the petals will usually flatten them. However, the plants must have a steady supply of food. If the potting soil begins to run out of nutrients as the truss is developing, the pips will not develop evenly and some distortion will result. I use Liquinox 0-10-10 at half the recommended strength for watering at this time.

The production of a prize plant (in perfect character) is not clearly understood by new growers. The ideal is as follows. In early spring a good

rooted offset is removed from the mother plant and potted in a three-inch pot. This offset is then grown on without any setbacks, develops well and is re-potted in a four-inch pot in August. It is still not as large as the mother plant but has all the vigor of youth. The following spring, providing all other factors of soil, water, and climate are favorable, you will have a prize truss on this plant. The old mother plant will remain just that. It seldom produces worth-while bloom but is kept for the production of new offsets. If it fails in this, beheading is in order which forces the dormant side buds into growth. Thus you could have, say, ten plants of Holmsley in various degrees of development with perhaps one or two of exhibition quality. You are too optimistic if you expect newly purchased show auriculas to produce prize bloom with their first truss.

Cy

Q. I have some polyanthus plants I did not get divided last season when I should have. Could they be divided early in the spring?

A. Yes. In fact, some gardeners prefer to divide polyanthus plants in early spring. Although directly after blooming is the ideal time to divide polyanthus clumps, they will benefit by dividing at any time provided it is at least a month before cold weather. Remember that the outside offsets will make the best plants.

Q. I have intended to give our primroses some bone meal this next season. How soon may this be applied?

A. As it takes about three months to become available to the plants, bone meal should be dug in well in advance. As any amount of bone meal will not burn, it can be used at any time, the best time being when plants are set

Old Auricula

Our British research editor makes our mouth water with his talk of the old "Dusty Millers."

BY CAPTAIN COMLEY HAWKES

The Auricula as we know it was most likely brought to the British Isles by the Flemish weavers who, driven from their own land by persecution, settled near some of the bigger towns such as Norwich, Macclesfield, Paisley, Spitalfields, and Manchester. At Manchester and Middleton, Lancashire, the old artisans became interested in the flowers which the weavers brought with them and soon, in their very limited leisure, took up the cultivation of these flowers, maintained their excellence, and no doubt improved them. The Auricula of today has been brought to a high standard of excellence, and one has only to visit one of the shows to be amazed at the wonderful range of colors.

But it is the old types with which we are concerned at the moment as they, or those that are left, are very lovely. Many of the show and alpine varieties of today are exceptionally beautiful, yet they lack the naturalness and beauty of some of the old kinds which were grown by our ancestors several centuries ago. Many of these old things have now been lost to cultivation, yet we are still left with some lovely kinds, which in some cases have become rather scarce but are still available to those interested in the flowers of our forebears.

The Auricula is certainly among
out. If you did not get it dug in last fall, dig some in when the ground becomes workable in the spring. At least ten pounds for every 100 square feet.

our oldest cultivated plants and it is thought by some to have been brought by the Romans; while it is certain that they were being grown in England in the 16th century. Gerard (1595) mentions four kinds; Luteo-yellow; Purple-purple; Clusei-red Bears Ears, and a scarlet. We still have the first three, but the scarlet appears to be lost. It seems to be these we now call Dusty Millers. Today we have the Old Yellow Dusty Miller with such densely powdered leaves as to make them appear almost white, while there is also a buff form of this; The Old Chocolate Dusty Miller and the Old Purple with a large head of big rich flowers backed by a leaf of green. The last mentioned is a very old plant and is thought to be a survival of the "great purple Jack-a-napes" of the 17th century. Then we have Old Bronze which carries a head of quaintly beautiful smoky-bronze flowers, and the Old Irish Blue with large frilled blue flowers, not to be confused with the modern Blue which is quite different.

Some of these old auriculas have lost their original name or have been lost to sight, yet are still lingering in some remote Scottish or Irish garden where time has stood still; a few years ago a quaint kind was found and is now called "Osborne Green." The flower is almost black with edges of white flaked green.

Mention must be made of the old double auriculas which not many years ago were plentiful but have now become quite rare. The best known of

these is "The Cardinal," deep crimson, said to have been a rarity stolen from the garden of the famous "Cardinal Richelieu." These doubles now appear to be coming into fashion again and while hybridists are working on re-introducing them, the new ones do not seem to have lost any of their old world charm. All these old auriculas are easily grown and perfectly hardy but those with downy leaves welcome a sheet of glass for protection against the heavy winter rains.

That many kinds have been lost is

certain, for Samuel Gilbert in his "Florist's Vade Mecum" published in 1702 mentioned some thirty kinds, which he describes as Full Flesh Color, Hair color, purple, willow color, liver color, mauve color, clove, light tawny, crimson, and crimson and white stripe, etc. These plants were known in Gloucestershire as "Vanner's Aprons" no doubt in allusion to the leathery leaves, and in other parts as "Bazies" referring to the baize aprons worn by some tradesmen.

Primroses in the Home Garden

Mrs. Hitching just skims the surface here. We hope to have her go deeper into the subject at a later date.

BY MABEL P. HITCHING

During the last three years I have been growing primroses in my own garden in the San Juan Islands and it has been my experience that it is not difficult for non-professional growers to produce good, sturdy, and attractive plants.

Proper soil conditions and water are the two essentials. Peat moss, old manure, loam, and sand in equal quantities are the requisites for proper soil quality. Soil requirements vary, however, since some plants require alkaline, and some acid soil. Of all types of peat moss available I have found "Blue Whale" to be by far the most satisfactory. Spray watering is not recommended as some types of primroses must be watered at the roots only. A third point to bear in mind is the plant's location. The wild primrose can nearly always be found at the foot of trees. Therefore partial shade is essential, but not so deep that the sun cannot penetrate.

The winters here can be quite severe with temperatures at times around 15 to 20 degrees above zero. I find a light sawdust mulch covering the ground around the plants will preserve them through almost any weather.

Careful attention along the above lines will produce satisfactory results. Most primroses bloom in the spring but a study of the various sections is quite rewarding, since a careful selection can provide blooms throughout the year.

The cultivation of primroses is not only an enjoyable task, but a very rewarding one since the original plant reproduces itself many times, and separation is easy. In three years I have now at least twice as many from the original plants as when I started.

Above all things, one must love primroses themselves to get the best results.



Mr. and Mrs. Strong with Barron

It is difficult to find superlatives to describe the work Mr. Strong is doing with the Seed Exchange and to register our appreciation for the job so well done.

Seed Offered for Exchange by The American Primrose Society

January 1958

An effort is being made to overcome the problem of what to do with seed received in small amounts, a difficulty that seems to plague all seed exchanges. If seed in this category are boldly placed upon the list the supply is soon exhausted, requests cannot be filled, and disappointment results. These seed are included in this list but a forewarning of possible disappointment is indicated by *,

which signifies that the supply is limited or in some cases the supply is quite insignificant.

As all requests for seed are filled in rotation, as they arrive, under this system some disappointment will result. However, the function of the exchange is to give wider dispersal to rarer, hard-to-get seed. A little disappointment now may result in a fuller supply of these seed as plants become established in gardens.

PRIMULAS

- P. alpicola*
P. aurantiaca
P. Bulleyana
P. candelabra
P. candelabra, Bartley strain
P. capitata
 **P. Cawdoriana*
P. chionantha
P. chungensis
 **P. Cockburniana*
P. denticulata
 **P. elatior*, Bardfield oxlip, collected in England
P. Florindae
P. frondosa
P. grandis, collected in France
P. helodoxa
P. Inshriach hybrids
 **P. involucrata*
P. japonica
P. japonica, "Glowing Embers"
P. japonica, pink
P. japonica, "White Cloud"
P. luteola
 **P. marginata*
 **P. modesta* var. *Fauriae*
 **P. nutans*
P. Parryi, collected
P. Poissonii
P. polyneura
P. pulverulenta
P. pulverulenta, Bartley strain
P. pulverulenta, claret
 **P. rubra*, collected in France
 **P. rubra*, garden grown
P. saxatilis
P. secundiflora
P. Sieboldi
P. sikkimensis, yellow and art shades
P. sinopurpurea
 **P. verticillata*, a Californian suggests this as a house plant
 **P. viscosa*
 **P. yargongensis*

ASSOCIATE PLANTS

- Allium cernuum*
Alstroemeria angustifolia, handsome but not hardy in rigorous climates
Alyssum argentium
 **Alyssum podolicum*
Alyssum saxatilis
Amsonia tabernaemontana, 2-3', flowers blue
 **Androsace carnea* var. *brigantiaca*
 **Androsace carnea* ssp. *Laggeri*
 **Androsace Chamaejasme*
 **Anemone coccinea*
Anemone fulgens
Anemone leveillei
Anemone pulsatilla
Anemone sylvestris
Anemone sulphurea
Anemone, white
 **Aquilegia Akitensis*
Aquilegia caerulea, rose shades
 **Aquilegia longissima*
Aquilegia vulgaris
Arisaema triphyllum
Arabis muralis
 **Armeria caespitosa*
Armeria formosa hybrids
Arctoctis, species not known, probably best treated as an annual
Arctostaphylos uva-ursi, bearberry, kinnickinnick, a ground cover
Aster alpinus
Aster alpinus, "Blue Boy"
Aster Frikarti, to 2½ ft., long-blooming lavender-blue
Aster Kumleini roseus
 **Aster Pappi*
 **Aubrietia grandiflora*, hybrids
Azalea mollis
 **Brodiaea laxa*
 **Boykinia rotundifolia*
Calochortus Gunnisoni, collected, (Mari-
 posa) not as colorful as some other species
Camassia leichtlinii
Campanula alliariaefolia, to 2 feet
 **Campanula Aucheri*
Campanula barbata
Campanula carpatia
Campanula persicifolia alba
Campanula rotundifolia
Campanula sarmatica
 **Campanula saxifraga*
Cantananche caerulea
Cerastium lanatum alpinum - not invasive
Cercocarpus parvifolius, a characterful, rugged, slow-growing shrub of well-drained soils. (Mountain mahogany)
Cheiranthus cheiri
Chrysanthemum coronopifolium
Clematis alpina (Altragene)

ASSOCIATE PLANTS (Cont'd.)

- Gaultheria procumbens*
Gazania hybrids, half-hardy perennials
Gentiana acaulis
Gentiana Andrewsii
Gentiana asclepiadea
Gentiana clausa
Gentiana hascombensis
Gentiana linearis
Gentiana lutea
 **Gentiana scabra saxatilis* and *Tukasa rindo*, grown side by side and seed mixed in harvesting, possibly some natural hybridization occurred. *G. s. saxatilis*, no height, *G. Tusaka rindo* to 3-4 inches.
 **Gentiana scabra Buergeri* Kumsawa
 **Gentiana septemfida*
Gentiana verna
 **Geum Borisii*
Globularia cordifolia (*bellidifolia*)
Globularia nudicaulis
Globularia tricosantha
 **Gregoria Vitaliana*
Helianthemum, "Flame"
Helianthemum "Golden Nugget"
Helianthemum matabile
Hemerocallis minor
Hieraceum villosum
Hutchinsia alpina
Hypericum coris
Incarvillea Delavayi
Iris Douglasiana
Iris Kaempferi
Iris missouriensis
Iris setosa
Iris - seed from an unusually large, beautiful blue bulbous *Iris*
Lapeirousa cruenta
Leontopodium sp. albanium
 **Lewisia Tweedyi*
Lilium formosiana
Lilium martagon alba
Linaria alpina
Linum flavum
Linum perenne
Lobelia cardinalis
Lobelia Dresdenensis
Lobelia syphilitica
Lupinus nootkatensis (from Alaska)
Lupinus polyphyllus
Lychnis Abbotsford rose
Maianthemum canadense
Marigold, single African
Meconopsis betonicifolia
Meconopsis cambria
Meconopsis simplicifolia, purple
Meconopsis from SS & W mahogany red
Codonopsis clematidea
Cornus canadensis
 **Cortusa Matthiola*
Carydalis Wilsoni
Cotoneaster spiculata
 **Cyclamen neopolitanum*
 **Cyclamen*, mixed
 **Cyclamen europaeum*
Cynoglossum nervosum
 **Cypripedium montanum*, white
Cypripedium parviflorum, creamy white
Cypripedium parviflorum, yellow
Daphne Mezereum
Delphinium, Chinese, deep blue, azure and white, exquisite
Dianthus Allwoodii alpinus
Dianthus arenarius
Dianthus atrorubens
Dianthus barbatus, deep red
Dianthus caesius
 **Dianthus corsica*
Dianthus deltoides, "Brilliant"
 **Dianthus deltoides*, white, 7-8"
 **Dianthus fragrans*
 **Dianthus*, fringed pinks (singles)
 **Dianthus glacialis*, true tiny alpine
Dianthus gratianopolitanus
Dianthus, "Highland Queen"
Dianthus, Irish Cottage
 **Dianthus*, la Bourbrille
 **Dianthus*, "Loveliness" (mixed colors, lovely perfume)
 **Dianthus neglectus*
Dianthus plumaris
Dianthus, red
Dianthus Rosii
Dianthus veltrioides
Dodecatheon sp.
Dodecatheon Meadia
Doronicum cordatum
Doronicum grandiflorum
 **Dryas octopetala*
Edraianthus dalmaticus
Erigeron glauca
Erigeron glauca rosea
Eriophyllum lanatum
Erysimum pumilum
Erythronium grandiflorum ssp. *chrysan-*
drum, Rocky Mountain form
Euphorbia polychroma
Frazeria speciosa, "Green gentian," of dry slopes, often beneath conifers at 8,500 feet
Fritillaria kamschatcensis (*this should rightfully be camschtensis, authority Eric Hulten, who invented it*)
Fritillaria Meleagris

ASSOCIATE PLANTS (Cont'd.)

- Meconopsis from SS & W 6943, a good pink
- Meconopsis from SS & W 3996, yellow
- Meconopsis villosa
- Mimulus ringens
- Mitchella repens
- Muscari azureus
- Myosotis, species not known, an excellent perennial form, doing quite well in shade
- Narcissus bulbocodium
- *Nomocharis aperta
- *Nomocharis pardanthina. (Never transplant until third year, and never when dormant.)
- Oenothera pumila
- *Orchis maculata
- *Oxytropis Halleri
- Papaver pilosum
- Papaver Sendtneri
- Papaver alpinum
- Penstemon - from Flathead Lake, Montana, to 30", red or purple trumpet flowers
- Penstemon Hartweggii - grower notes that seed are from best lavender and bright red blossoms
- Penstemon Richardsoni - grower warns that this plant is difficult to propagate, either by seed or cuttings, suggests plants be shaded from noontday sun
- Penstemon from Mammoth Hot Springs, a worthy plant
- Penstemon Scouleri
- *Phlox divaricata
- *Phyteuma obiculare
- Potentilla megalantha
- Potentilla Warrensi
- Pulsatilla Halleri
- Saxifraga aquatica
- *Saxifrage decipiens, Tiny red form
- Scabiosa alpina
- Scabiosa lucida
- Scilla sinensis
- Silene saxifraga
- Sieversia ciliata
- Sisyrinchium angustifolium
- Smilacina racemosa
- *Soldanella alpina
- Synthyris stellata
- Tellima grandiflora (from Alaska)
- Thalictrum dipterocarpum
- *Trillium grandiflorum
- Trillium undulatum
- Trollius europaeus
- Tulipa chrysantha
- Tulipa DeWett

- Tulipa Kaufmaniana
- Tulip, single early
- Veronica Guthriana
- Vescaria utruculata
- Viburnum carlesi
- Viburnum trilobum
- Viola arenaria rosea
- Viola "Black Imp"
- Viola cuculata rubra
- Viola Princeana

It will not be necessary for members of the Society who request seed to enclose a stamped envelope, as these will be furnished again this year; however, postage for the return of seed should be enclosed with the request. For each 25¢ remitted, six packets of seed will be forwarded, but only one packet of each variety. Quantities will be limited on most. Labels (names) are those of growers, and comments on seed come from contributors. Requests must be made before March 15. It will be well to indicate substitute choices, particularly on those marked with an asterisk. The distributor will always fill all requests to the best of his ability. *Requests should be directed to: Chester K. Strong, Box 126, Loveland, Colorado.*

Fluorescent Lighting

(Continued from Page 21)

viously experienced. The by-word is "Avoid over-watering"—to the point of seeming cruel. On that rests success.



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**BARNHAVEN'S
New Catalog No. 16**

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BARNHAVEN GRESHAM, ORGEON

Seasonal Notes From Barnhaven

BY FLORENCE LEVY

At last Barnhaven's long-promised new catalog is ready. Writing a catalog, is, I am sure, something all nurserymen dread. For one thing, winter is not a time of leisure for mail order people as others might think. The long hours are the same; it is only the type of work and dead-lines that change; therefore, doing a new catalog is anticipated with something less than joy. However, as with most tasks, when no more pencils can be found to sharpen and the start can be put off no longer, pride in the product being presented wells up with fresh force and its planning and composition hold the writer in a grip of fascination until completed.

This is the first complete catalog Barnhaven has issued in four years and, instead of being dated 1958, it is being identified as Number 16 because another four years may slip by before the next one is written. In this way the annual supplements issued to present new stock will always refer to a current catalog. At the moment, knowledge that No. 17 must eventually be materialized is passed over quickly because No. 16 had to be thought through and written twice.

The "once-in-a-lifetime" catastrophe happened. Copy was lost without trace at press. If you want to see how it finally turned out, just write for Catalog No. 16, Barnhaven, Gresham, Oregon.

Doubtless many of you have read "Primroses and Polyanthus" by Genders and Taylor, which is a delightful piece of writing. You will have the opportunity of reading two more books by Roy Genders this year. They both appear to be as charming as the author, who lives in Yorkshire, England. The

copies sent me were press proofs, the finished books will be ready for sale this month through W. & G. Foyle, Ltd., 119-125 Charing Cross Road, London, W.C. 2, England. Prices will probably be modest plus the advantage we have in the current rate of exchange.

The Auricula book will carry six color photographs specially taken. The book has been loaned and chapters cannot be listed here, but its appeal is distinctly remembered. Referring to "Polyanthus for Garden, Exhibition and Market" just received, the chapter listing leading American, British, New Zealand, and European strains will be of interest as will chapters on origin, in the garden, culture, as cut flowers, cutting and market in bloom, propagation, and others.

If you live in the Pacific Northwest, all of your spare time is not being used for reading this winter. We are having, so far, one of those lovely—and dangerous—open winters with more sun and less freezing weather than usual. Primroses are throwing caution to the winds and blooming madly, presenting their most vulnerable side to the first sudden hard freeze coming down from the Arctic without a moment's notice. Help them keep their buds and bloom by having on hand such materials as wood excelsior, evergreen boughs, or hay, and cover your plantings generously when the freeze does come, leaving it on until the soil beneath the covering has completely thawed before removing. Read previous Barnhaven Notes for nature of primroses, why winter bloom makes them vulnerable, and how to save them from themselves.

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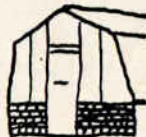
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The Quarterly

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The Annual Subscription, dating from the 1st of January, is £1, payable to the Secretary, C. B. Saunders, Husseys, Green Street Green, Farnborough, Kent, England, but American members may find it more convenient to send \$2.80 to Dr. C. R. Worth, Groton, New York, the Society's Hon. Assistant Secretary in the U. S. A., who is empowered to receive subscriptions and to issue receipts on behalf of the Society.

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IN
5 to 6 WEEKS**

Get Fertosan from
your local seedsman
or hardware.

Fertosan Compost Accelerator, West Jordan, Utah
O. A. Moore, Colloidal Soil Service, College View Station,
3827 South 52nd Street, Lincoln 6, Nebraska
Clair W. Stille, 137 Bassett Avenue, Lexington 27, Kentucky
Solly's Puget Sound Seed Company, 1530 Westlake Avenue North, Seattle 9, Wn.
DUNN SALES LIMITED
310 King Street East, Toronto 2, Ontario
58 Victoria Street, Winnipeg, Manitoba.
140 St. Paul Street West, Montreal 1, P.Q.
CANADIAN ORGANIC DEVELOPMENTS LTD.
306 Burns Building, Calgary, Alberta
MACDONALD & WILSON LTD.
562 Beatty Street, Vancouver, B. C., Canada

Special to A.P.S. Members

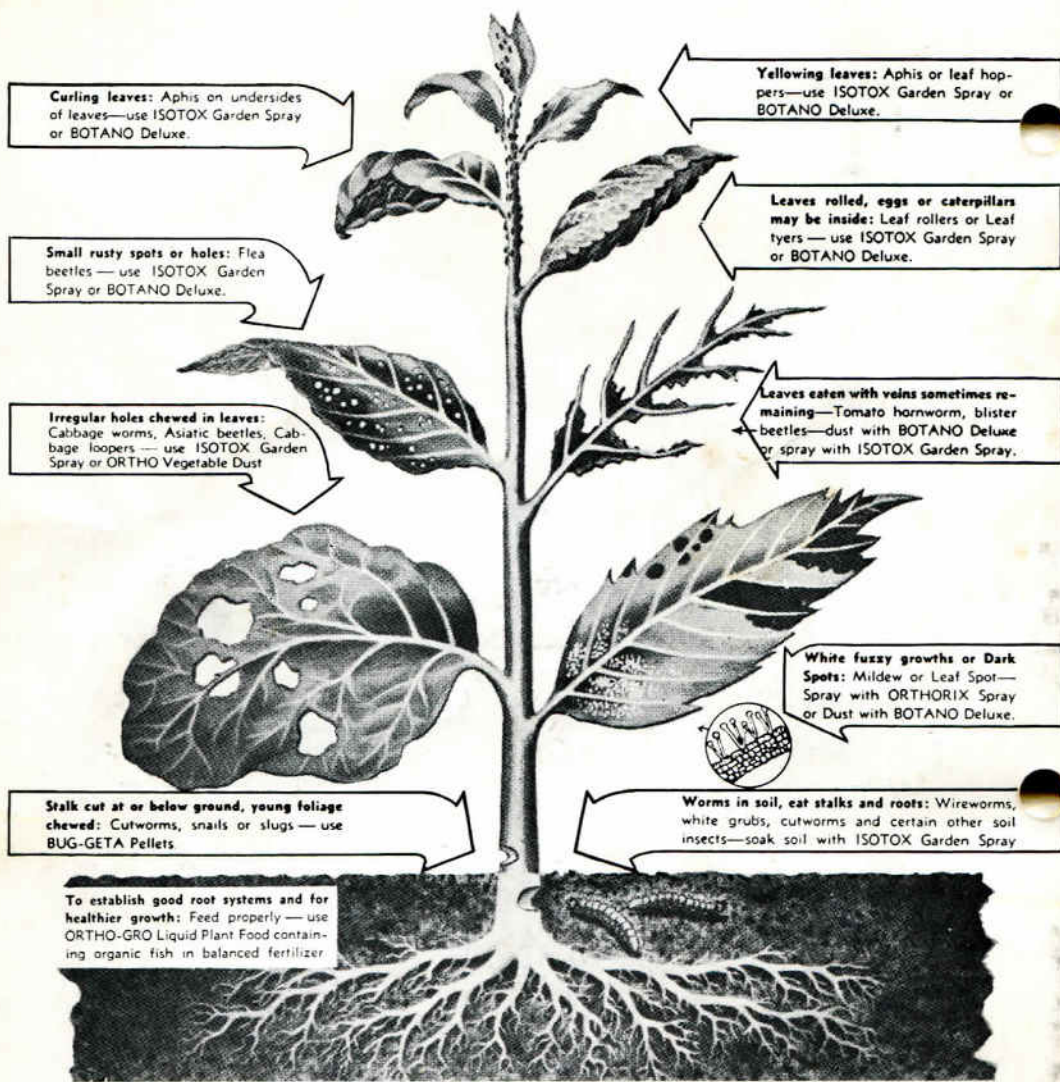
Members of the American Primrose Society are given a special advantage in the purchase of Fertosan. Packets of the size necessary to reduce one ton of waste material to compost in the six-week period, sold in the State of Washington at \$1 a packet, may be obtained for 60c, post prepaid, from the office of the A.P.S. Quarterly, at 18680 Conrad Olsen Rd., Redmond, Washington. Washington State purchasers should include sales tax.

Unsolicited letter from SHAW NURSERIES, 3255 Manor St., N. Burnaby, B. C. to MacDonald & Wilson, Ltd., Vancouver, B.C.

I have been using Fertosan Myco as a compost maker with success. By chance I noticed in one of your pamphlets that it also would prevent damping-off of seedlings.

It does just that, as I used it on Greenhouse Stocks and Snapdragon seedlings which are very much subject to damp, and have not found a trace of damping-off, while the check flats which were not treated lost a considerable number of plants.

Thought you might like to know about this.



PEST CONTROL THE EASY WAY

The last few years have brought some amazing new **multi-purpose** sprays and dusts for easy, dependable plant protection.

You no longer need to recognize the insect or the plant disease . . . just two good sprays (ISOTOX and ORTHO-RIX), a multi-purpose dust (BOTANO) and BUG-GETA pellets for snails and slugs will protect your garden all season.

Should You Dust or Spray?

Dust if you are looking for the easy way. It's faster, cleaner, saves dilution mixing. Use dusts that come in handy pump-action dusters with economical refill packages, such as BOTANO Deluxe or ORTHO Rose Dust.

Spray for economy and efficiency. Saves money—you use less. Sprays last longer, stick tighter, give better coverage. Use ISOTOX Garden Spray, either alone or

mixed with ORTHO-RIX Spray. This combination controls both insects and plant diseases. For handy home spraying you'll like the ORTHO SPRAYETTE—attaches to your garden hose; mixes water and spray material automatically as you spray.

Pellets Make Baiting Easy. For snails and slugs, simply toss BUG-GETA Pellets around your garden and get results overnight. It's best to start baiting regularly at the start of planting season.

Ortho Weed Killers Give Complete Control. If you're after **Lawn Weeds**, use ORTHO Lawn Groom or WEED-B-GONE . . . contains 2,4-D.

For **Brushy Weeds** (Poison Oak, Brambles, etc.) ORTHO Brush Killer does the job—contains 2,4,5-T. For clean **Weed-Free Sidewalks** and driveways use TRIOX . . . kills all vegetation and prevents regrowth up to 2 years.

California Spray Chemical Corp.

Richmond, California—Elizabeth, New Jersey—Orlando, Florida—Portland, Oregon
St. Louis, Missouri