

Quarterly of the American
Primrose
Society

VOLUME XXVI

FALL 1968

NUMBER IV

PRIMULA FRONDOSA



American Primrose Society

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Cover: *Primula frondosa*

Officers and Directors of A.P.S. and Editorial Staff of Quarterly.....	98
President's Message	100
Primula Hybrids Near Pontresina	102
Seeding and Growing Instructions for Candelabras	107
Primroses in the Pacific Northwest	Beth Tait 109
Helleborous at Penny Creek Farm	Emma Hale 111
Questions and Answers	Alice Hills Baylor 117
From the Treasurer's Desk	120
Primula Auricula and Its Hybrids	W. R. Decker 121
Membership List	124
Statement of Ownership	127

THE PICTURE ON THE COVER: *Primula frondosa* see page 109

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A Message from Your President

Dear Fellow Members:

1969 is the year of decision for the American Primrose Society. We must decide not whether to but how to, start an ambitious forward program of expanded services to our members coupled with a promotion campaign to spread the Primrose Fever to an ever expanding group of new and young members. To impart knowledge and enthusiasm about primroses to others so they may experience the pleasures of growing and flowering the various *Primula* Species for themselves is a service to humanity and an obligation of every member of the American Primrose Society.

I and the Board need the help of your ideas, your needs, and your wants that you believe the American Primrose society can do something positive about fulfilling. If the A.S.P. can serve you better, it can serve the needs and have more to offer prospective new members.

These increased services need considerable thought before they are rushed into because they will cost more in time and money. A letter from each of you with your ideas is really the only way I or the Board can find out what you need and want from the A.P.S.

I have received several inquires about Round Robin letter groups for the A.P.S. How many of you would be interested in joining a Robin on Primroses if you could? How many would take on the responsibility of supervising a Robin? Let me hear from you.

What are your ideas on regional test gardens for primula? Are they worth the effort? How many of you would be willing to donate money, plants, seeds, manual labor, clerical work, supervision and coordination? Again tell me in a letter.

What do you think of a two day annual meeting and conference along with the National Show? The conference would have a planned program of lectures, slides, demonstrations, and reports on cultural methods and research, and a tour of selected gardens. How many could afford the time and money for the trip and convention? This type of meeting fails if only the members from the local area of the meeting

attend. Its real value is the chance to meet and exchange ideas with Primrose enthusiasts from other areas. Maybe once a year is too much. Perhaps once every three or five years this sort of meeting could be carried off in the Grand style. Give with the IDEAS and methods of carrying them out.

Now we have the national membership of the A.P.S., Local affiliated societies, local and national shows, THE QUARTERLY, The Dictionary, The Seed Exchange, The Cultural Chart, a question and answer service. These can all be changed to better meet your needs if we really know what your needs and desires are, and how much you are willing to pay for these services.

I still need some volunteers to organize a local Primrose society in your own community and to shepherd it thru its growing pains until it can stand alone.

The hour of decision is getting close. Let these decisions be informed decisions based on the majority's wishes and needs. Your letters are needed so I and the A.P.S. Board can acquire the knowledge of your wants before we make these decisions for the American Primrose Society.

Herbert Dickson,
President

Notes from Alice Hills Baylor
(October 11, 1968)

"... Vermont is in the colorful season with the first snow on the mountains. Many Primroses are in bloom, auriculas, Julianas, polyanthus and a few acaulis. Not many but enough to be exciting."

* * *

"... and to tell you I have heard from Doretta Klaber today that her book on Violets will be published by A. S. Barnes and Company, Inc., Cranbury, New Jersey 08512. The illustrations will be in full color. Many members of the APS have sent Mrs. Klaber violets during the time she has been work-

ing on the book and many have expressed great interest."

* * *

"... Recently Horticulture magazine sent me a letter from Mr. A. J. D. Wedd, Kent, England, in which he asked for seed of *P. Lavinia*. I have no knowledge of this Primula so I wrote to Mrs. James Watson and to Mr. H. Lincoln Foster asking for information. Both Mrs. Watson and Mr. Foster replied that they had no information.

"It might be possible that someone in the Society may know of this Primula."

If any one has such information please send to Mrs. Alice Hills Baylor, Corresponding Secretary, Sky Hook Farm, Johnson, Vermont 05656.



Primula Hybrids Near Pontresina

By R. D. NUTT

Permission was given by Mr. Roy Elliott, editor of the **Quarterly Bulletin** of the Alpine Garden Society for the reprinting of this article.

Many members who wander over Central Europe in search of alpinists may have found themselves in the lower Engadine, probably staying for a few days at the lovely centre of Pontresina. This is mainly granite country with some gypsum outcrops, especially up the Val Bernina Suot and beyond the Val Minor. It is about some calciphobe primulas and particularly about their progeny that I wish to write. The three "stars," all in the Auricula Section of the genus *Primula*, are: *Primula integrifolia*, *Primula rubra* J. F. Gmel. and *Primula viscosa*.

Primula integrifolia will grow on limestone, but where this occurs there is usually an isolating layer of humus as in the vicinity of Arosa. It seems to prefer open, rather

damp ground. *P. rubra* is rarely found on limestone and, when growing there, is very dwarf. It usually favours granite rocks and well-drained stony ground in full sun, while *P. viscosa* prefers some shade for the greater part of the day and is tolerant of less well-drained rocks with pockets of humus. Until 1935, *P. rubra* was more usually known as *P. hirsuta* All. but also answered to *P. viscosa* Vill. and *P. villosa* Curtis; however, in that year Schwarz found in some forgotten publication that it had been first described in 1785 as *P. rubra* (most appropriately). It is worth noting that Continental botanists continue to use *P. hirsuta* All. while in this country, since 1948, we have accepted the correct name as *P. rubra*.

The individual species can be found over a variety of elevations from 650m.-3000m. above sea level, but I have only found hybrids in the lower Engadine between 2,000-2,600m. The colour forms of these "guest stars" between the three species vary so much that they should be sought when in flower. In 1957, the flowers were over by early July, but that year the snow had melted early and we were able to walk up the Heutal (Van de Fain) and over by the Pisha Lakes and back to Pontresina in comparative comfort. In 1963, after a cold winter and late spring, 2nd July was an ideal date and the flowers were fully out. In late June, which would appear to me as good a time as any, snow can fall and stay long enough to render a visit useless.

Up the sides of Val Roseg I have found only *P. rubra* and, very high

up *P. integrifolia*, but no hybrids. The top of Piz Nair, overlooking St. Moritz, is limestone, so only *P. integrifolia* might be expected; but walk down, and other primulas are reported. Go up the Victorian cable railway to Muottas Muragl where it is said that there are both *P. viscosa* and *P. integrifolia*, but I have never found them together. There is a report in one of the *Bulletins* that hybrids have been found there. Val Minor now seems to be intensively grazed by cows, with a reduction in some of the flora, but I have not explored its rather steep sides. I do not remember reports of any hybrids from the Diavolezza, and I have never been up in this cable car. You may now have gathered that I have no intention of pin-pointing the home of my "guest stars." However, they are not far away, in fact anywhere



PRIMULA VISCOSA

Photo: R. Seligman



P. RUBRA X VISCOSA

P. RUBRA

P. INTEGRIFOLIA X VISCOSA

Photos: R. D. Nutt

with rocky outcrops and damp ground is a likely place.

Before describing the hybrids, I should first give an account of the species in some detail, in order to try and point out what I consider to be the dominant features of the hybrids. Fuller botanical descriptions are given by Wright Smith and Fletcher. Detailed descriptions of the hybrids are rather scattered and mostly out of print.

Primula integrifolia usually has entire leaves whose surface is somewhat sticky and virtually free of glandular hairs. In *P. rubra*, the leaves are covered with golden or reddish hairs and the margin of the upper part is deeply denticulate. *P. viscosa* has fleshy leaves, which are often deeply denticulate over the entire margin; they are unmistakably odorous — according to Farrer—of goat.

Primula integrifolia has one to three rose-lilac or magenta-lilac

flowers on a short scape, with very short or absent pedicels. The calyx is long, much longer than in either of the other two primulas, and is very often tinged red; it is cut down by its lobes to one-third of its length. The inside of the corolla tube is densely hairy towards the apex.

Primula rubra has one of many rose or lilac flowers on a distinct scape with short pedicels. The calyx on both *P. rubra* and *P. viscosa* is short and is cut to about its middle. The inside of the tube and the throat is white, so giving the flower its white eye, and is glandular. Without doubt it is the most beautiful of the three primulas, but only the best-shaped forms of good colour are worth growing in the garden. There is—or was—a very beautiful white form in cultivation.

P. viscosa has rather funnel-shaped violet or reddish-violet flowers in a one-sided umbel. The inside of

the tube is free of hairs, or nearly so, and is sparingly farinose at the throat.

The hybrids are more variable and often more desirable than their parents. Not only may the first generation hybrids between the species be found, but it is possible for these to have back-crossed with either parent. Except in the case of *P. x dinyana* which is sterile (Macwatt), second generation hybrids may occur. For those who like names and labels to their plants the named hybrids are:

PRIMULA x BERNINAE Kerner (*P. rubra x P. viscosa*) is intermediate between its parents, with the smaller stature of *P. rubra* and with the odorous glands and the rather taller scape and one-sided umbel of *P. viscosa*. The flowers are larger and more open than those of *P. viscosa*, more resembling *P. rubra*, but have usually lost the white eye. The leaves are denticulate, usually in the upper half as in *P. rubra* and the mid-rib is prominent. *P. x berninai* 'Windrush', introduced by P. Rosenheim, is rather smaller in all its parts except the flower, which has more red in it than purple.

PRIMULA x DINYANA Lager (*P. integrifolia x P. viscosa*) is the same cross as *P. x muretiana* Moritz, and is closer to *P. integrifolia* (Wright Smith and Fletcher). Farrer considered that this was the correct name for the cross and that *P. x muretiana* was a later synonym. But both go back to 1839! (Not, as he says, one to 1829 and one to 1839.) Since there are many intermediate forms, one of the names should be dropped, which following Macwatt would be *P. x muretiana*. It inherits its toothed leaves from *P. viscosa* and their stickiness from *P. integrifolia*. There are more flowers than in *P. integrifolia* on longer pedicels,

while the corolla throat has no hairs and is slightly farinose. It is not so tall as *P. viscosa* and has fewer, more open and larger flowers, larger bracts and shorter capsules than this parent. The seed is invariably sterile. The flowers are in a lax umbel inherited from *P. viscosa*. Usually the pedicel is very short, from *P. integrifolia*, and the calyx long and reddish from *P. integrifolia*. The flowers can be far more brilliant with more red in



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their make-up than either parent.

PRIMULAxHERRII Brugger (*P. integrifolia* x *P. rubra*) appears to be the least common of the three groups of hybrids. It usually has denticulate leaves, from *P. rubra*, and has larger brighter flowers than *P. integrifolia* and the longer pedicel from *P. rubra*. The flowers are usually larger than either parent with a blurred white or coloured throat. The pedicels are larger than *P. integrifolia* but shorter than *P. rubra*.

I have not personally grown any of these primulas long enough to recommend methods of cultivation, but Farrer suggests warm, deep, perfectly drained light peaty and stony soil, adding the advice that the roots be allowed to grow under the edge of granite rocks. This method is used successfully by more than one A.G.S. member in Yorkshire, where the primulas seem to prefer full sun, possibly

with a short period of shade. It is strongly recommended that grit and leaf soil be worked under the leaves each spring or the plants become leggy. Both species and hybrids have been grown successfully in pots but *P. viscosa* is reported to prefer an outdoor life. Macwatt did not find *P. integrifolia* easy to flower, which seems to be the general experience. I believe that *P. viscosa* does not flower well in the south of England.

All the three species are available commercially, but of the hybrids I can only find *P. x berninae* 'Windrush' catalogued at present.

Give this house, O, traveller, pray,
A blessing as you pass this way.
And if you've time, I beg your
pardon,
While you're at it bless the
garden.

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Seeding and Growing Instructions for Candelabras

We have always found it advisable to order our seed early from a reputable dealer. The finest strains and the newest colors are always sold out before the end of the season. We store seed in dry glass jars with tight lids, as soon as we receive it, in a refrigerator away from the freezing unit. Seed will live for years if kept cool and dry.

NATURAL FREEZE METHOD

We sow our seeds in November, December, January and February so that we can have seedlings over a longer period of time. We always try to catch at least one natural freeze because we firmly believe that the seeding medium is thus improved and because we know that it is the easiest way. We have tried many methods but prefer to plant our seed in metal containers or clay pots (as wooden ones tend to rot) and sink them into the soil before the winter freeze. We cover these with burlap (old sacks will do) so that the rain and watering will not disturb the seeds and so that there is adequate ventilation. When the weather warms, the little seeds will begin to show life and germination. Uncover them and place a pane of glass over them, a little tilted for circulation of air. This early planting of seed, with nature's help, eliminates unnecessary work and delay in getting the seedlings into their permanent place in the ground so that they can have the summer to grow in.

FREEZING AND THAWING METHOD

We do plant seed after the winter freeze and immediately after the first harvest. These are in very small quantity as we cannot be bothered with more seedlings than we can handle easily. We must admit that summer sowing is much like peeking in the oven before the cake is done, but then, who can resist a peek? Place a few drops of water in the package of seed, then wrap the packages with oil paper and place in the freezing compartment of your refrigerator. We freeze and thaw the seeds 3-8 times, always being careful that there is plenty of water in the envelope to mass the seeds together.



Seeds may be thawed and then drained on a blotter. Plant immediately before they are thoroughly dried out.

SOIL MIXTURES FOR SEED PANS

For planting soil we use equal parts sand, loam, and leaf mold or peat moss (1/2 Blue Whale if procurable and 1/2 regular peat). We use large pots or metal containers and cover the bottoms with a layer of course drainage material. Place soil mixture over this, gently tamp and water thoroughly. We prefer watering from the bottom by placing the pan or container in water until it is well soaked. We scrub and wash containers thoroughly (even the flats we plant the seedlings in) before using. We believe that cleanliness and the use of Blue Whale, the 100% organic soil builder and conditioner, with its antibiotic action, has helped us maintain our record of never having damp off or disease in the seed pans.

TRANSPLANTING INTO FLATS

Seedlings may be transplanted when two or three leaves are showing. The soil mixture for the transplants is richer than for the seed. We use 1/3 good rich composted loam, 1/3 coarse sand, and

1/3 peat moss (1/2 Blue Whale or if the plain peat is used, water occasionally with fish emulsion).

CANDELABRAS VARIETIES WORTH TRYING

Bartley Strain pulverulentas: Pink with silvered stalks and red and yellow eyes, 2-3 ft., May blooming.

P. Beesiana: Rosy-carmine, yellow eye, fragrant, 20 inches, June and July blooming.

P. Bulleyana: Crimson buds opening into fine orange, red midrib on leaves, 3 ft.

P. chugensis: Closely related to *Cockburniana* but hardier and larger. Orange or lemon center, 30 inches.

P. helodoxa: Tallest of the Candelabras. Rich yellow 5 ft., yellow mealed stems, July.

P. japonica: Very hardy, red, 2-3 ft., unmealed.

Japonica hybrids: Postford White; Millar's Crimson, Rose Shades. 2-3 ft. April-May. Very hardy.

P. pulverulenta: Red with silvered stalks, dark eye, very hardy, April-May blooming.

By the late Maude Hannon

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PRIMULA DENTICULATA

In the Pacific Northwest, where we get more rain than snow, Fall care helps save some of our Species Primroses. Cleaning all the weeds out and adding a little slug bait in early Fall gets the little grey slugs. There seems to be two kinds of small grey slugs. The soft one above the ground is easily taken care of, but the tough one that feeds on the roots of plants underground is like old tough rubber and very difficult to get rid of. He likes to burrow down to the root and spend the winter sucking the life out of your plant. In the spring you have a listless plant, pale in color, and chances are you can lift the plant up without digging with a shovel. The slug bait spread in early Fall, under the plant leaves, will get him before he goes underground.

Plants should have a little food for winter. In early October we spread some commercial fertilizer,

PRIMROSES in the Pacific Northwest

by BETH TAIT

or well rotted animal manure, around the plants and between the rows. For best results use fertilizer low in nitrogen.

Spread grass clippings and tree leaves among your plants for winter protection. This also protects your spring blooms from mud and water splashing on them, discoloring the blossoms. If the Primrose foliage is too heavy, pull some of the leaves from your Primrose plants, especially *P. frondosa*, *P. Modesta*, *P. Farinosa* and *P. Daricalica* the furina (white meal) is heavy on the crown and the water seems to stand, making the crown rot. Without a frost to kill the foliage there is no way for the water to get away. Help nature by pulling the leaves back to one inch in October. By then the little white crown is formed for spring. This is about the size of a dime. This is your new plant, leaves and little lavender blooms all come up at the same time in the spring. The

white meal under the leaves and sometimes on top of the leaves depends on the spring rains. A little shelter overhead would protect the meal from washing away.

By pulling the leaves in the fall, we have some four and five year old plants without dividing, making a wonderful display in their blooming season.

P. Denticulata was another plant that we could not keep. Until cutting leaves in the fall, they always rotted in the crown. Now I always pull the leaves up in one hand and using the lawn shears I cut the leaves within two inches of the crown. Do not try to pull the leaves as they are too long (twelve to fourteen inches long), you tear the crown of the plant, sometimes doing severe damage to the plant.

If you do lose a *P. Denticulata* plant by crown rot, the center usually turns to a soft, mushy substance. This can be removed from the crown and filled with dirt, and sometimes new plants will

come making dozens of new transplants. The old roots may be dug and cut into two to three inch pieces, then these planted into new soil will start new plants. Sometimes you lose a choice color and this is a way to get it back.

I find transplanting *P. Denticulata* in the spring is best, they seem to grow better and usually the plants are quite large by fall.

Some kind of soil dust added to your planting beds may save that much prized plant. *P. Sieboldii* should have soil added to their winter beds as these plants make a new crown each year, the old one dies and a new one comes on top of the old. They are quite shallow growing, so this puts the new crown at the top of the soil level, rains wash the crown out or frosts heave it loose. When you look for it in the spring it's gone. By adding more soil, our plants are there year after year. For best results divide the plants when dormant, they come apart easily then.



PRIMULA HALLERI FARINOSA

Helleborous At Penny Creek Farm

On November 19 (quite a few years ago) Emma Hale spoke on Radio Station KOAC, Corvallis, Oregon of "Helleborus at Penny Creek Farm." Many listeners in Oregon, and those elsewhere who were unable to hear the talk, requested **PACIFIC GARDENS & HOMES** to publish it as an article. This is a reprint of that article.

By EMMA HALE

When asked to do this broadcast on the subject, "Helleborus at Penny Creek Farm," I was a bit fearful, since I dislike to pose as an expert. There seems to have been very little written about this interesting genus of plants, and all I have read has not been according to my experience in growing them.

The plants of Helleborus mean much to me and I have learned not only to like them but have become intrigued by them. Probably a contributing factor as far as I am concerned is that in 1942 when I was doing a National Flower Show in Seattle, my father died very suddenly, probably for my own good and the good of the cause I was forced to keep going as chairman of the show because the work on the show had gone so far it was impossible for me to quit. At that time the Federation of Garden Clubs of the State of Washington (under whose auspices I was serving), was comprised of only approximately 1100 members gave me three Helleborus plants after I finished the show. Up to that time in my life I knew little or nothing about Helleborus. These plants I cherished and they are the only plants that I moved from my former home in Seattle to Penny Creek Farm where I now have a collection, both purchased and raised. Penny Creek Farm is not

only my home but this site was also selected for testing of plants and garden information for a garden magazine.

When I moved these Helleborus plants to Penny Creek Farm was when I became very interested and started to collect them. I found and bought some in Oregon and still continue to wonder why there are not more available. I also wondered why more people did not have Helleborus in their gardens. Maybe I had better add, I am still wondering why more people don't have them in their gardens now. This probably is one of the reasons why I became so interested in them, besides learning of the pure delight of having flowers of this one genus in my garden the entire year around. The fact that there is so very little known and so few of them available intrigued me and I began to find out all I could about them. I discovered immediately that there wasn't much material written about them. The most important requisit you must have to grow Helleborus is patience, because it takes time.

The Genus Helleborus is of the Ranunculaceae family. About eight of the species are natives of Southern Europe and East Asia. Of course, there are more species. The new Royal Horticulture dictionary of

gardening states, "The Helleborus—a genus of 18 or 20 herbaceous perennials."

The species that seemed to be (or may I had better put it this way) that I have found more familiar of this genus in this area are:

First, the *Helleborus niger*, or better known as our beloved Christmas Rose of which so many legends have been written; Second, *Helleborus orientalis*, better known as the Lenten Rose;

And the other two that seem to be familiar and which I like very much are *foetidus* and *corsicus*.

One you hear a great deal about is *viridis*, which has been naturalized in some eastern states, but commercially doesn't seem to be available.

In the Genus Helleborus there are both evergreens and deciduous ones. I would rather describe them as "winter-green" because no matter which of the species you have in your garden, it will be green in the winter.

The *Helleborus niger* that is the true Christmas Rose which most authors agree upon, is the one that starts its lovely white bloom very early in the summer and continues on though the snow, turning to a deep pink in January and then finally in its last stages turns green and is still very beautiful. There are many varieties of the *H. niger*. A few I might mention are *H. augusti-folius*, *H. altifolius*, *H. prae-cox* and *H. maximus*. The St. Brigit hybrid is the one that comes into bloom later in the blooming period, usually, (at least in my garden)

HELLEBOROUS NIGER, SUSAN HALE



not until December. It is very large, which is why it is so highly recommended.

There are several other varieties of *H. niger* species including several new ones I have from England, but as the experts come to my garden they do not always agree as to which is which. In my collection file of articles that have been written about the varieties of this species, even the authors do not agree. The fact of the matter is that the authors don't even agree with the legends that are written about them. I don't feel we should grow plants because of the legends that are written about them, but because of the plain satisfaction of growing them, and I just plain enjoy growing *Helleborus niger*.

The *H. niger* is the most difficult one to grow from seed, probably because of its blooming time and the time of the year the seeds form. The rains seem to keep them from completely ripening. I have in my garden many varieties of this particular species that start blooming early in June and continue until very late March. In the past years I have been fortunate enough to mature some seed of my own. I certainly would recommend to all of you at least one or two plants of this particular species, whatever variety you may be able to procure, in your garden. Of course, I will agree that they

do look more spectacular when you have many plants. As they are a herbaceous perennial, low-growing, they are beautiful in borders and also as ground covers. The most successful way of propagating *H. niger* is by division.

Now, the *Helleborus orientalis* is the one that there are varieties of from the deepest of reds to snow whites and also variations of greens. They are the ones that are very easily grown from seed and to my knowledge are the only species that hybridize. I have combinations of pinks and green and combinations of deep reds with green. Many of them come up with very beautiful spottings. They grow a bit higher than *H. niger*. Up to this time I haven't been able to grow *H. niger* longer-stemmed than twelve to fourteen inches, but many times in the *H. orientalis*, especially in a lovely green one I have, they have stems up to eighteen inches.

H. orientalis are a challenge and you have a great deal of fun growing them because you can raise them from seed to bloom in three years. You have the anticipating factor that causes your interest in growing because you haven't the slightest idea of what color you are going to get. At the moment I am trying to isolate a pure white. At least it is as pure a white as I have been able to find. The only antici-

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pation you have in growing *H. niger* from seed is what degree of white it will be, mixed with a bit of pink or as to size, which seems to be all-important. Of course, *H. niger* blooms in the deepest of winter, and the *H. orientalis* ordinarily doesn't start to bloom until late January, though right now in my garden I have both a white and a red one in bloom. If you like quantities of plants, *H. orientalis* is a good one to grow, because they can either be divided or easily set seed and they germinate easily.

Helleborus foetidus, as far as I have been able to find out, seems to have only three varieties. Some of them grow to two feet and some taller. Their main characteristic is that they come up from a main stem and their flowers set in a huge clump. They will have some fifty cup-shaped flowers that are about an inch in diameter. Some varieties are pure green and some have a little purplish edge. For you folks who like to make corsages, they are exquisite in their fresh form. Since they usually start to bloom in February, those that are allowed to remain on the plants long enough to form seed pods are

lovely, too. In all our May flower shows they come in very handy both for arrangements and corsages, as at that time they are in seed. In fact, I think I like them better in their seed pod form than when they first start to bloom.

The *Helleborus corsicus* I like not only for its bloom but for its beautiful evergreen foliage. The blooms, too, come up from one main thick stem with literally hundreds of blooms in the cluster. As far as I have been able to find out the only variation in the color of the bloom over yellow-green is that they sometimes get a bluish cast to them, which adds a lot of interest. They bloom, of course, usually in March. I might say each flower is larger and more fairy-like than *H. foetidus*. These flowers, no matter what color, lend themselves to combinations for flower arrangements and corsages. I have some plants in my garden of *H. corsicus* that are three to four feet high, and the one that I brought to Penny Creek Farm which I received in 1942, now when it is in full growth is approximately six feet across, having anywhere from twelve to fifteen of these luscious big clusters of flowers. Both *H. foetidus* and *H. corsicus* furnish a lot of seed and are very easily grown from seed. Here, too, of course, we have a period of three years from seed to flower. One of the main reasons I grow *H. corsicus* is for its foliage; it is simply beautiful.

As far as I am personally concerned, I feel that one thing we need to know for the actual growing of these plants is that they require aerated soil and an original hole very deep because some of the plants that I have dug up have root systems more than eighteen inches long. They don't like competition of large tree roots, but they like

semi-shade. Too much shade is almost as bad as not enough. The reason I like to plant them around evergreens is that they seem to need that protection from the hot sun that comes in April, and your deciduous trees are not in full leaf by then.

Some folks say *Helleborus* doesn't like moving. I probably agree on that, except that the only time I have had any trouble in moving plants has been when I have moved them in full bloom. I have moved them many times when they have started to bloom and have had no troubles. Since their blooming period varies so, that is one thing I would consider when thinking about moving a plant. The thing that I am very careful about is to plant them at the same depth at which they were originally growing. They don't like their crown covered. One thing I find is necessary is to be very careful that you don't break off any of the new shoots. I have actually had to take an ax in my division of *Helleborus niger* to cut the crowns apart, the roots were matted so. All you actually need is one good growing crown for a good division. Sure, it takes about three years to get a good plant after the division, but you do not lose your bloom. You get at least one or two blooms the next year.

The thing that this group of plants likes best of all is to be clean, especially from leaves that fall on them, because they bloom when other things are dying. My suggestion is that you pick off all the leaves and twigs that fall on your *Helleborus* from over-hanging trees. Another thing that makes them dirty is that they bloom when the rains are on and some of the dirt splashes onto the plants. Some of the authorities, and I, too, suggest that you put sand or peat moss around the plants. On some of my bigger plants I like to put a few rocks around the plant and put leaves over the rocks so that they do not touch the ground. This seems only to be necessary on *H. niger* and a few *H. orientalis*. The *H. niger* leaves naturally cling to the ground. Some of my friends have been concerned when the leaves and stalks die back on some of the species—but don't worry about that. Remember, some of these species are true herbaceous perennials and when they die back, cut them off. You will notice immediately where you cut, new growth is coming.

The only thing that seems to attack *Helleborus* from a standpoint of diseases is the black spot on the leaf and sometimes it gets onto the stem of the flower. There are two controls of this. One is a Bordeaux

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mixture and another a Burbundy mixture. The Bordeaux mixture is made by mixing pure copper sulfate (blue vitriol), hydrated lime and water. Commercial formulations are rated by figures on the labels, such as 4-4-50. The first figure represents the number of pounds of copper sulfate, the second, the number of pounds of lime, and the third, the number of gallons of water. 4-4-50 is considered the standard.

Burgundy mixture has the same power as a fungicide as Bordeaux mixture and is used in preference because it does not stain the foliage a sickly blue color. Burgundy can be made in smaller quantities than Bordeaux. It differs from Bordeaux in that in place of the hydrated lime, baking Soda (sodium carbonate), is used.

Formula for a small quantity is: Eight ounces copper sulfate, 12 ounces carbonate to 25 gallons of water. Commercial formulations are available at garden supply stores of both Bordeaux and Burgundy mixture.

I am very hopeful that more of you folks will grow these plants, because I am sure you will become intrigued with them as I have, because Helleborus are not only

beautiful but they give you little or no trouble and they give you bloom when you need it the most. They make my garden a year-around garden.

In closing, I'd like to give you this one legend of the Christmas Rose that I like best:

Legend of the Christmas Rose

When Jesus was born in the little town of Bethlehem, there came Wise Men from the East bearing gifts of gold, frankincense, and myrrh.

A little shepherdess, watching from afar, wept because she had no gift to offer the Christ Child.

As her tears fell to the ground, flowers sprang up, which the child gathered and hastened to bring to the Infant.

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QUESTIONS AND ANSWERS

*Answers by Alice Hills Baylor, Corresponding Secretary
Johnson, Vermont, 05656*

Question: Can you tell me why the foliage of my P. auriculas turn yellow?

Answer: There may be two reasons. One that the drainage is poor and the other that the soil is too heavy. The solution could be that the bed in which they are growing should be raised and when that is done the entire soil to a depth of twelve inches should be turned and compost and clean sand added. Auriculas like to be top dressed with small stones and if that is repeated the soil becomes more porous. The addition of bone flour is given in early spring when the beds are cleaned up again after the plants have bloomed.

Question: Is it necessary to freeze Primula seeds before sowing? What soil mix should one use?

Answer: No, not if seeds are fresh. One should store Primrose seeds in a tightly covered glass container in refrigerator until time to sow. The mixture that has proved best for our use is: 1 part each of good garden soil, clean sand and wet compost or soaked peat, sifted twice and a handful of egg shells (crushed) added to a bucket of mix.

Sprinkle seeds on top of soil mix and sift a little sphagnum moss over seeds. Cover with snow or crushed ice. Next moisture: 100 degree water. Alternate until germination begins. Put flat or pot out of direct sun or under lights. Keep in warm place. After germin-

ation begins keep in cool place.

When transplanting seedlings to a larger flat the same mix is used with the addition of a trowelful of dry cow manure to a bucket of mix. One may spray transplants with a foliage fertilizer once a week. Keep transplants in a container of a weak solution of any fertilizer while transplanting.

Question: How deep should the P. Sieboldii be planted? Should the pink bud (winter bud) be out of the ground?

Answer: *P. Sieboldii* should be planted so that the winter bud is about an inch below the surface of the soil in a bed with a greater amount of humus. It is late in showing in spring so the planting site should be marked in fall. A good mulch should be over the site for winter and the area again mulched adding fertilizer in spring. It is very hardy (a Japanese plant) and it multiplies most satisfactorily. To my knowledge I have never lost a *P. Sieboldii*. In making over the bed in which they are planted one should lift the plants after they bloom in early summer, cultivate the soil deeply adding about one third humus and then resetting the plants. If they have multiplied the plants may be gently worked apart and each part replanted.

Question: Kindly give me a description and the culture of P. luteola.

Answer: This is one of the late

blooming Primroses and a very handsome plant. The foliage is a soft lush green, narrow and slightly dentate forming a loose rosette six to eight inches across. The flower scape rises eight inches above the rosette and the color is a sulphur yellow. *P. luteola* requires a rich soil with more than usual humus content. The most important cultural need is good drainage. The bed in which it is grown should be raised at least four inches above the surrounding area. Given these few needs the plants will flourish and may be divided after blooming.

* * * *

Question: What is the winter care of P. farinosa, P. frondosa, P. darialica, P. denticulata and P. modesta?

Answer: These Primroses all form a center winter bud and care must be taken not to allow moisture to collect in the center of the plant to cause crown deterioration. In areas where there is a great deal of winter moisture the outer leaves should be removed in fall to allow all excess water to run off of the crown. The winter mulch should not be near the crown. It may be added here that Primroses should not be covered with any heavy material for winter protection. They are extremely hardy and must not be smothered. A good winter covering is evergreen branches to allow air to circulate. Wind can cause damage. Many Primrose growers use a winter mulch of excelsior and some use shredded newspaper. If paper is used it can be cultivated into the soil in spring.

* * * *

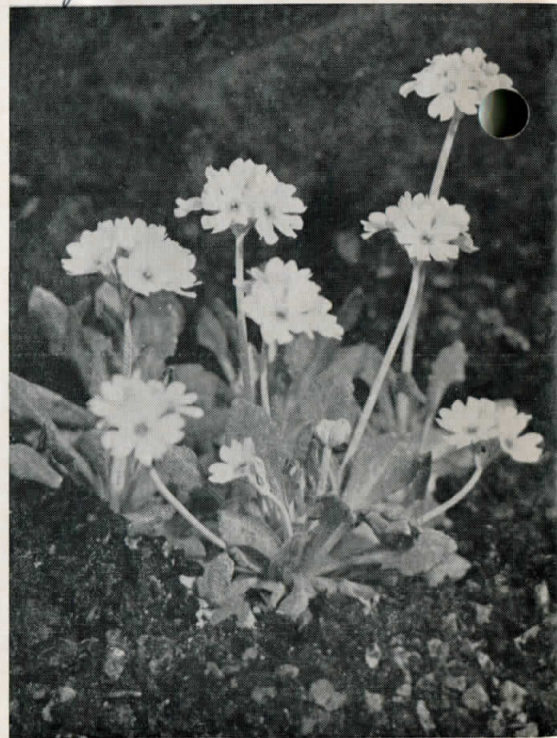
Question: Will you tell me how P. marginata should be planted and in what type of soil?

Answer: This tiny Primrose has a stunning rosette no more than two inches across, of grey green

leaves, deeply dentate and edged with white farina. The flowers are a soft French blue with as many as twelve to sixteen. It blooms very early and in Vermont it often wears a wet snow cap. The root system is long for the size of the plant, a woody root with a few feeding roots from the large center one. To show it to advantage it should be planted in a horizontal position between two rocks. It is not particular to soil and will grow in lime or granite. It is an ideal wall plant as it will have the needed drainage. It seems to enjoy an eastern exposure but seems to do well also when facing west. Has sun for over half of the day.

* * * *

Question: How does one bring P. Glauscens, P. spectabilis and P. Glaucescens



PRIMULA MODESTA
VAR. FAURIAE ALBA
Photo: Roy Elliott

integrifolia into bloom? Have had these in my garden for four or five years, they have multiplied but have set no flowers.

Answer: P. Glauscens: Dr. Carl Worth was the one who told me several years ago that this Primula needs lime. I have had it now for many years, growing in a high ledge in gritty soil with ground lime stone, crushed egg shells and Indiana lime stone making the small retaining wall. I also use lime water around the plants. It was not until I followed his suggestion that my plants bloomed. The planting site also receives sun for over half the day.

P. spectabilis: This primula is noted for lack of flowers. It must have a neutral soil and have sun for over half of the daylight hours. The soil must be gritty and so in



PRIMULA SIEBOLDII

our naturally acid N.E. soil I added lime. It bloomed for two years and then disappeared and I have not had it since.

P. integrifolia: This tiny Primula came to me by chance in the flat in which *P. pedemontana* was planted and I was not certain what I had. It flowered in the most exquisite shade of violet in soil that was almost pure compost. Then I read it needed a gritty soil and changed it and it failed to bloom until I again gave it a pocket of pure compost in a sunny position. It is from the Alps and Pyrenees growing in "chalky" soil but it must have an abundance of humus at its base. At least that is my experience. —A.H.B.

I feel that the Questions and Answers pages are most interesting and informative. Much thanks is due Mrs. Alice Hills Baylor (who is a very busy person) for sharing her knowledge and the prompt way she gets material to your editor. Please keep sending her your questions. Thanks. Emma Hale, editor.

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IN MEMORIAM

It is with regret that we note the passing of Colonel Louis M. Haas, 536 Ramsdell St. Fircrest, Tacoma, Washington. Colonel Haas was a long time member of the American Primrose Society and was Show Chairman many times of the Tacoma Show. He will be missed.



Auricula

Primula 'Dorothy' raised at Inverloch, Vic. at 1960 SR96 sb. Edinburgh 1977 mixed ancestry SR9 Apr. 61 Christchurch Boyd Hawley
**Primula Auricula
And Its Hybrids**

Primula auricula and its hybrids were in cultivation in Austria before 1570 and by the end of the sixteenth century some of them were well established in this country. Gerard gives the first English description of them in his Herball published in 1597. About the same time Clusius, who was the Court Botanist to the Emperor Maximilian II, included *Auricula ursi* I (*P. auricula*) and *Auricula ursi* II (probably *x P. pubescens*) in the collection of alpine plants he sought to acclimatise in the gardens of Vienna, where they attracted much attention. In due course the development of the culture of auriculas took two more or less independent lines, one favouring different forms of the species and the best natural crosses, and the other based chiefly on *x P. pubescens*, leading to the florists' auriculas of today.

The natural distribution of *P. auricula* extends from Savoy through Switzerland and Austria to Yugoslavia. As might be expected there are many geographical variations in form and some recognized sub-species, but the type is a plant with a flat rosette of leaves, more or less mealy, carrying heads of rich yellow scented blooms. It is an admirable subject for the rock garden and flourishes best in a rich deep pocket among limestone rocks. A particularly striking form, sometimes referred to as *var. albo-*

cincta or *bauhinii*, has leaves which are broader than in the type, with a jagged silver margin. The flowers are larger, more tubular, and with a distinct eye of white paste. It is found chiefly in the Julian Alps and in the Carpathians.

The interesting subspecies, *P. auricula balbisii*, a native of the Tyrol and the Apennines, is a plant having broad rounded toothed leaves that are devoid of farina, and deep yellow odourless flowers. *P. auricula var. obristii*, which ranges over the Eastern Alps, is somewhat similar but the flowers are fragrant.

P. auricula var. serratifolia, which has been found only in Rumania, has markedly dentate leaves. Two further varieties, *P. auricula monacensis* and *P. widmeroe*, found in South Germany, carry rather small flowers and are not particularly attractive. There are numerous other forms of *P. auricula*, but their distinctive characteristics are so slight as to be of interest only to the botanist.

Among the natural hybrids which are distributed widely over Europe one of the most attractive is *x P. venusta*. (*P. auricula x P. carniolica*), a plant with purple flowers and powdered leaves. It has been in cultivation for a long time and is easy to grow in a moist semi-shaded position. Unlike many hybrids it produces fertile seeds

and crossed with *P. marginata*, has given the magnificent hybrid *x P. Marven*, which has leaves like those of *P. carniolica* but with dark violet flowers.

In the Engadine, which is a particularly happy hunting ground for the primula devotee, one can occasionally find a plant of *x P. escheri* (*P. auricula x P. integrifolia*), carrying dull red flowers of no great beauty but interesting on account of its parentage. The same district gives us *x P. alpina* (*P. auricula x P. viscosa*), a plant with long narrow leaves and yellow-eyed lilac flowers. A not dissimilar but much more striking hybrid is *x P. gobelii* (*P. auricula x P. villosa*), found in Taurern Alps. This plant carries large toothed leaves and fine white-eyed lilac flowers carried well above the foliage, and there is a rarer form whose flowers are deep

violet with a yellow eye. Seedlings of this plant in the second and third generation will produce flowers of a whole range of colour from yellow to deep purple.

x P. discolour (*P. auricula x P. daonensis*) is a variable cross occurring only on a few passes where its parents meet in the Alps to the north of Lake Garda. The flowers are usually some shade of dingy purple, but sometimes they are pale yellow. In one district where a very farinose form of *P. auricula* grows the flowers of the hybrid resemble those of the garden plant, Old Red Dusty Miller.

Wherever the areas of *P. auricula* and *P. rubra* coincide, as they often do, particularly in the Engadine, *x P. pubescens* is to be found. It is an even more variable plant having purple, violet, yellow or



DISPLAY LOT OF AURICULAS — AT A SHOW HELD IN KIRKLAND, WASHINGTON

white flowers and leaves which may or may not have farina and may or may not be dentate. *x P. pubescens* has had a long life in gardens both in this country and on the Continent and an enormous number of seedling forms have been propagated, some of them better than the best of the natural hybrids. Among the garden hybrids that are generally included in this group are some that probably have *P. viscosa* or *P. villosa* in their ancestry. One of the oldest is Mrs. J. H. Wilson. It has white-eyed violet coloured flowers and is of a robust constitution. *Ilene* and *C. J. Porter* are similar. For some unknown reason the red forms lack the stamina of the blue and violet ones and are probably best confined to the alpine house, although *The General*, another red hybrid, will flourish on the scree. Other red varieties, *The Cardinal*, *Rufus*, *Faldonside*, *Ruby* and *Kingscote*, a late flowering crimson, are well worth growing.

The white form of *x P. pubescens* is rare in this country but flourishes in Northern Ireland. The plant which is sold commercially under the name is generally *P. rubra var. alba*, sometimes also erroneously called *P. nivalis*, and has funnel shaped flowers like the species, and not the round flat flowers which are characteristic of *P. auricula* hybrids.

Many of the varieties of subspecies and hybrids of *P. auricula*

may be found somewhere between a thousand and ten thousand feet in the Alps, and for those who like the mountains, pleasurable days may be spent in searching for and collecting good forms. The primula enthusiast will also derive much interest from hybridising suitable plants, the pubescens types being particularly rewarding. Seeds are best sown as soon as they are ripe, but some will not germinate until even the third year. Cold and light seem to accelerate germination.

All the plants mentioned may be grown in an alpine house but most of them are equally happy as crevice plants with a northern exposure.

W. R. Hecker.
National Auricula &
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