PRIMULA OBCONICA (left) and PRIMULA ARENDSII MULTIFLORA (right)

Photo by Elmer C. Baldwin
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Quarterly of the American Primrose Society

VOLUME XXIX FALL 1971 NUMBER IV

Officer and directors of A.P.S., Editorial Staff of Quarterly

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THE PICTURE ON THE COVER (see page 121)

Primula Obconica and Primula Arendsii Multiflora

Photo by Elmer C. Baldwin

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President’s Message

Our northwest roadsides are beautiful at this time of year with all the colors of autumn, the leaves and berries showing that fall is here. This past week it’s been my privilege to see the primroses of Ralph Balcom, Ross Willingham and Ruth Bartlett. Each of these growers have a fine collection of primula, giving great expectations for our shows in the spring. All of them join me in sending greetings to the members of A.P.S.

My message before, and again today, encourages the involvement of members by absentee ballots. It is well known here that I feel the last amendments to the Constitution at our 1971 National A.P.S. Banquet and Board meeting should have been voted on by more of the membership.

REFERENCE: A.P.S. QUARTERLY VOL. XXIX SPRING 1971 NO. 2
1. Page 48, Article VI, Amendments—Does not state a period of time for notification (only that amendment must be published and delivered to membership).
2. Page 49 Article III Section II Dues—Dues shall be set by the board of directors. (All mention of money has been stricken from the Constitution so that dues can be controlled by the board.)

Our present Constitution was published in said Quarterly with no mention of the fact that there were amendments to be voted on. This Quarterly was delivered in the West the day before the Board Meeting was to be held. In the East delivery was three weeks later.

At this time you are being given a chance to vote on the propositions listed below. Your response will be considered by the A.P.S. Board.
1. Shall the cost of dues be stated in the Constitution with only a vote by a simple majority of the membership able to change it?
2. Shall dues be governed by A.P.S. with no mention of dues in the Constitution?
3. Shall all nominees for office and constitutional Amendments or any proposition up for a vote be published no later than the January issue of the A.P.S. Quarterly, giving each member a chance to vote (if only by absentee ballot)?

An old saying goes, “A promise made is a debt unpaid.” This was my promise, please respond by card to:
Mrs. William Tate
1006 40th Street
Milwaukie, Oregon 97222

stating name, membership number, address, with a yes or no vote for each Proposition listed here.

Most Sincerely,
Thelma M. Nelson

If a strict botanist should read this title, the one who enjoys the whole scale of changeability in some plants—he would surely smile and say—four species of Cortusa—well, there is only one—Cortusa matthiolii L. But we do not subscribe to this idea—therefore: I collected Cortusa matthiolii L. in Belanske Tatry Mountains in Czechoslovakia. In 1968 I found Cortusa sibirica Andr. in Chamar Daban Mountains south of the Lake Baikal—both latter species on the territory of U.S.S.R.

It can be observed from the enclosed map*, that the places where I found the various species of bear's-ear sanicle are considerable distant each from other. All four species of Cortusa thrive in more humid places, at mountain streams or in shady, damp caves sheltered between boulders and under rocks and on damp rocks. The generic name for Cortusa comes from J. Cortuso, the director of the Botanical Gardens in Padua, Italy. Cortuso lived in 16th century; Linnaeus named the plant in his honor.

I shall start with the Mongolian species of Cortusa, Cortusa altaica A. Lôs., mainly because I know it the longest time and I consider it the most beautiful. I collected it in a wild gorge of the magnificent, splendid and unknown mountains Baga Bogd uul (A Small Holy Mountain) at the height of approx. 2,700 m. I found it at a fast mountain stream, which disappeared in the lower part of the mountains under large boulders. It was in my “botanical” experience the most interesting.

I wrote about alpine and rare plants from these mountains in “American Rock Garden Society Bulletin” No. 2 in 1968. But now I'd like to write a few words on some species which grew on similar places as Cortusa. First of all it was the skull-cap—Scutellaria tuvensis, a new species for Mongolia, which I had previously determined as S. grandiflora. In crevices grows edible wild onion—Allium alticum, which in shape and taste reminds us of the common household onion. It enriched my simple mountain menu—a piece of bread and several lumps of sugar. Why such a poor menu? I travelled “light,” not even with a camera, in order to reach in one day the summit Monga-Yamat (3583 m). And I succeeded. But back to the neighbors of Cortusa altaica. Another one was Castilleja rubra, new to Mongolia, an alpilly; Lloydcia serotina in rock crevices; rare Varierana saichanensis, worm word; Artemisia frigida, yellow flowered monkshood; Aconitum barbatum, buttercup; Ranunculus pulchellus, pinks; Dianthus versicolor and Dianthus superbus var. rubicundus (found for the first time in Gobi Altai). Also in the vicinity was edi-

*lt is unfortunate that because of lack of space it was not possible to reproduce the map.
ble wild vegetables of Far North, with many names in English — dwarf fire weed, rock rose, river beauty, prostrate willow herb, Cha-
maenierion latifolium var. glabres-
cens. Other neighbors of Cortusa was blue bell, Campanula silenifo-
lia; rockfoil, Saxifraga hirculus and Lomatogonium carinthiacum with
azure blooms. Also a plant with
Lomatogonium carinthiacum
Saxifraga hirculus and
rockfoil,
with many names in English —
universally known around — I was alone—maybe
that is why it was so memorable
here collect the first Cortusa altai-
ca.

On this day I also saw, at the
height of 3,000 m., a beautiful
mountain bird Tetraogallus alta-
ca, something like a cross between
a pheasant, turkey and partridge:
from all of them he took just the
most beautiful characteristics. Mon-
gaga - Yamat (3583 m.) means in
Mongolian "one thousand moun-
tain goats" (Capra sibirica). And
there were many there. PATCHES
of Pyrethrum pulchrum and Senecio
pricei were mostly grazed off; high
in the mountains the goats had
well trodden paths and I found
several skulls with magnificent
horns in the valley. Here also lived
and I saw it, the Mongolian marm-
lot—tarbagan (Marmota sibirica)
and the kings of the air—eagles
(Aquila rapax). Not a human be-
ing around — I was alone—maybe
that is why it was so memorable
here collect the first Cortusa altai-
ca.

In Mongolia there are two spe-
cies of Cortusa, our Cortusa altai-
ca and C. brotheri Pax. Both are
rare and were found separately
in the mountains near the Lake Chu-
bsugul, in Chentei, in Mongolian
and Gobi Altai, and Changai (Gru-
bov 1955). Should my plans and
dreams come true, I should be able
to find Cortusa brotheri also in the
neighboring mountains in Altai
on the territory of the USSR.
I am planning the trips there in

The synonyms for Cortusa altai-
ca A. Los. are C. mongolica A. Los.,
C. matthiolii f. sibirica Podpera,
C. sibirica Borbas and C. matthiolii
Bunge, non L. It is widespread on
Siberia from the eastern slopes of
the Ural as far as the Baical and
the Gobi Altai, and Changai (Gru-
bov 1952) gives yet more syno-
misms of Cortusa, our
Cortusa matthiolii. It can be
seen how rich is the flora of the
calcareous Belanske Tatry Moun-
tains.

The synonyms of the known Cor-
tusa matthiolii L. are Androsace
primuloides Moench., Primula cor-
busand, Primula matthiolii Ri-
chter, Cortusa sibirica Baenits, non
Andrz., C. matthiolii var sibirica
Sagorsky et Schweid. and C. mat-
thiolii f. sibirica Podpera. It grows
mainly on calcareous soils in moun-
tains from Western and Central
Europe, as far as Northern and
Eastern Europe.

The third species was Cortusa pekinensis (Richt.) Kom. et Alis.
from the island Sakhalin. Ohwi
(1965) refers to it as C. matthiolii
L. var. yezoensis (Miyabe et Tatu-
Hara, brings further synonyms
C. sachalinensis var. yezoensis Mi-
yabe et Tatew., C. coreana var. ye-
zoensis (Miyabe et Tatew.) Hara.
The plant has a pretty Japanese
name — sakura-so-modoki — re-
minisding us of the spring Cherry
Blossoms Festival—sakura. Fedo-
rov (1952) gives yet more syno-
misms C. sachalinensis A. Los.,
C. matthiolii f. pekinensis A. Richter
and C. matthiolii var. chinensis A.
Richter. It was described from
China, from the mountains of the
Peking region. The samples from
Sakhalin differ from the Chinese
ones by less hairy leaves.

River Irkut, in the environments of which Primula sibirica grows. (Photographed by author.)
Cortusa pekinensis has, from all four species, the most lobed, cut-out, comparatively small leaves. I found it in the region of Susunai Mountains near a brook in the woods of predominantly spruce (Picea ajanensis) and fir (Abies sachalinensis). There also grew Actinidia kolomikta, Hydrangea petiolaris and H. paniculata, Aralia elata, Eleutercoccus senticosus, Lilium (Cardiocrinum) cordifolium, Schizandra chinensis, Anemone raddeana and Lysichiton camtschatcense. Other interesting neighbors of Cortusa were holly, Ilex ruigos, Dryopteris lineana and D. phegopteris, Acomitum neosachalinense, A. sachalinense, A. miyabei, Coeloglosus viride; American twin blade, Liparis sachalinensis, Moehringia lateriflora and rare Pera-carpa circaeoides; globe-flower, Trollius japonicus, Saxifraga reniformis, Waldsteinia ternata, Vaccinium praeastans, V. hirtum, Circaea alpina; gold-thread, Coptis trifoliata; grape - ferns, Botrychium robustum and B. lanceolatum; wild ginger, Asarum heterotropiodes; sweet woodruff, Asperula odorata; stonecrop, Sedum verticillatum, one of the few species of Sedum which thrives in damp places, wake-robin, Trillium luteum, and growths of bushy bamboo Sasa tesiocensis and S. paniculata.

If I'd collect Cortusa pekinensis in 1944, not in 1968, there could be the title of this article somewhat different: "Four Cortusas in Four States." In this time the Southern Sakhalin up to the 50th Parallel was a part of Japan.

But from this "if" let us return to the reality—to the second meeting with Cortusa pekinensis. It was at the foot of coastal rocks near the village Due on Northern Sakhalin. Here the Cortusa had a quite different company. Besides some species named above one could find there Dendranthema weichii; spleenwort, Asplenium incisum; Epipactis papillosa; lady slipper, Cypripedium macranthum, Platanthera extremiorientalis, endemic Saxifraga sachalinensis; columbine, Aquilegia flabellata var. plumula, Pulsatilla tatevankii, Lilium dahuricum, L. medeoloides; hog's fennel, Peucedanum deltoideum; saw-wort, Saussurea pulchella, endemic Sedum pluricaule with pink flowers; lily of the valley, Convallaria keiskei, Iris setosa, Sedum camtschatcicum, Veronica schmidtiana and a different species of bamboo, Sasa spiculosa.

Cortusa pekinensis grows in northern China, in Korea, in mountains Sichote Alin, in the bay Dekasteri and on Sakhalin in the USSR, in south and west of the most northern Japanese island Hokkaido and in the provinces Os-hima and Ishikari.

The fourth species of Cortusa was found, by chance, south of Lake Baical in the Chamar Daban Mountains. As a guide, an experienced tourist and alpinist Kim Gaburg came with me, a worker from the Academy of Sciences, Irkutsk, but even he managed to get lost in the mountains and we found ourselves in a deep valley, where on damp rocks over a stormy mountain stream grew Cortusa sibirica Andraz. together with the rare Paraquilegia microphylla; cinquefoil, Potentilla crebiedens, Goodgera repens (very rare); broom rape, Orobanche krylovii as a parasite on meadow rue, Thalictrum simplex, also Tofieldia nutans; grass of Parnass, Parnassia laxmanii; knotweed, Polygonum viviparum;adder's mouth, Microstylis monophyllos; twin-flower, Linnaea borealis, Saxifraga bronchialis; and flower-cup fern, Woodia glabella.

Popov (1959) is quite sure that this Cortusa sibirica cannot be distinguished from the basic species of C. matthioli by the more hairy underside of leaves. But already his pupil, a younger botanist Malyshev (1956, 1968) fully recognizes, that in C. sibirica are mentions of the difference in comparison with Cortusa altaica and C. matthioli. Cortusa sibirica contains more aetheric oils in the leaves, has smaller flowers, more hairy leaves and more serrated leaf edges as C. altaica. It grows in the vicinity of Baical in some mountains together with C. altaica. But they never meet. Cortusa altaica grows high in the mountains, from timberline to high altitude plains; Cortusa sibirica prefers damp fir forest and bushy birch grows in river valleys and damp rocks. I found it on such a damp rock. At the places near Baical just mentioned one can find

The leaves of plants collected by the author: Cortusa matthioli (M), C. altaica (A), C. sibirica (S) and C. pekinensis (P). (Del. H. Vackova).
lost their seeds. From Sakhalin I
Cortusa pekinensis
On Sakhalin
Bogd uul in Mongolia
Cortusa al-
tains
had already
Cortusa sibirica
unsuccessful. In the Belanske Ta-
try Mountains in Czechoslovakia

of Primula and Primulaceae have
for crossing. Therefore, the lovers
choice and for further hybridiza-
tion of valuable decorative plants.
We can be grateful to nature for
their introduction. The growing of
Cor-
tusas is concerned. Frankly it was

according to Foster, 1968). One has to bear
mind, that the best place for
Cortusa is the shadiest place in
the garden, very damp, but airy,
ot soggy, with soil enriched by
good forest humus or containing
large part of peat. We shall be re-
warded with early blooming, nice
flowers and neat fragile leaves of
bear’s ear sanicles.

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Vol. II. 1959

Pruhonice, 3th July 1970

Primula Juliae Kuznetsova

Noted by Elmer C. Baldwin

PRIMULA JULIAE KUZNETSOV

Perennial: rootstock short,
oblque, giving rise to rather slen-
der brownish roots; plants small,
up to 10 cm tall, stemless, quite
glabrous; leaves exclusively basal,
long petioled, together with blade
to 10 cm long; leaf blade thin,
dull green, rounded-reniform or
broadly ovate-lobulate, cordate at
base, 2 to 3 cm long and about as
broad, coarsely and sometimes
doubly crenate, faintly veined; pedi-
cles slender, somewhat winged, 2 to
3 times as long as the blade; flow-
ers solitary, the pedicels equal to 2
to 3 times as long as the length
of the leaves; calyx narrowly tubu-
lar, slightly angled, the lanceolate
finely pointed teeth about half the
length of the tube; corolla large,
rose, up to 2 to 3 cm across, the
tube 2 cm long, twice the length of
the calyx, the limb broad and flat;
corolla lobes abcordate, deeply
notched (to 1/3), the lobules round-
tipped; fruits and seeds unknown.
April.

Abundantly watered rocks in the
forest zone — Caucasus: Eastern
Transcaucasia (Dagestan), (Great-
er Caucasus Range). Endemic, Lag-
odekhi Gorge (Kakhetia). In addi-
tion to this classical location, found
in Azerbaijan.

The foregoing notes are used with
the kind permission of the author,
Prof. Audrey A. Fedorov, of the V. L.
Komarov Botanical Institute, Acade-
y of Sciences of the U.S.S.R.

August 24, 1971

Seed which was sent me from
Stavropol was planted in January
of 1969. Two seeds germinated, of
which one survived and was plant-
ed in the garden when it measured
two inches across, in March of 1971.
The flat in which the seed had been
planted had remained exposed to
full weather for the two years. Fol-
lowing planting out, it developed
rapidly to about four inches across,
and flowered in late April. The
plant now (in late August) mea-
sures seven inches across the foli-
age which lies quite closely to the
ground — less than two inches high
—is quite unlike any of the other
primulas in the garden.

Drawing and above notes by El-
mer C. Baldwin.

PLEASE NOTE
New Seed Exchange
Chairman
Mr. Keith F. Elcombe
11539 78th Avenue
Edmonton 61, Alberta, Canada

Please send all seed and all other Seed
Exchange material direct to Mr. Keith
F. Elcombe.
QUESTIONS AND ANSWERS
Answers by Alice Hills Baylor, Corresponding Secretary
Stage Coach Road, Rt. 2, Stowe, Vermont 05672

Question: Is moss harmful to Primroses?
Answer: I do not believe there is any harm except that lime may be added. The auriculas should have a top dressing of lime (or plenty of crushed egg shells) worked into the soil. As a rule I suggest removing the moss and top dressing with lime chips or compost. Also moss may indicate a need to fertilize.

Question: The foliage of the P. auricula has turned yellow, that is on the lower leaves. What is the cause?
Answer. There is not enough drainage or they should have more lime worked into the soil. The auriculas like to be planted between two rocks with plenty of fertilizer (dry cow manure) at the base of roots, crushed egg shells or lime chips worked into the soil and a top dressing of lime chips. You will note the difference. They will also take more sun than other Primulas.

Question: When should winter covering be put on Primroses?
Answer. Not until the ground is frozen and then only light covering, evergreen branches are excellent, nothing that will pack. Protect from drying winds.

Question: When can I start fresh seeds?
Answer: Any time after receiving seeds. Or one can wait until Feb. or March. Keep seeds in refrigerator in a closed glass jar until planting time.

Question: Should the outer foliage of Primroses be removed in fall? I was told to do this.
Answer: It is best to trim some of the old foliage, especially the large types, P. denticulata and the Candelabras, as well as the polyanthus. Mulch with compost in which has been added slug bait. Care should be taken not to have mulch on crown of plant.

Question: Are the small types, like the P. Julie more difficult to grow than P. polyanthus and P. acaulis.
Answer: No. The Julies are perhaps the most hardy of the tribe and will multiply fast. It is needful to lift every other year to separate as the roots mass together and the center will not receive enough plant food.

Question: If I wish to buy Primroses in spring when in bloom to have the colors I would like, would that harm the plants?
Answer: Not in the least. Many people buy Primroses in bloom for that very reason. The roots are compact and some are fleshy and if soil is retained they will not show any wilt in transplanting. Care should be taken however to have the receiving bed in good condition, the soil worked well, fertilized and compost added. Water in, well. If there is a drying wind a paper bag may be put over the newly set-in plants for a day or two.

Question: Will you kindly give me a list of plants that will give summer bloom in the partially shaded areas where I have the Primroses growing.
Answer: There are many wild plants as well as garden types that will give summer bloom in a partially shaded area: Aquilegas; Campanulas (all the low growing for edge, C. muralis and garganica) tuberous Begonias; Astilbes (A. taequetti in bloom August-September and lovely pink only 5-6 inches in height); Thalictrums; Dicentras, (D. eximia blooms all summer); Corydalis lutea; Any of the summer blooming Orchids; Actea rubra and A. alba give good effect with the red and white berries in late summer and fall; Alliums: Hostas; Lilies: ferns: Kalmia: Cotoneasters give the color of their ripe fruit: Rhododendrons and Lobellas. The seeds on some mentioned should be gathered or the plants will take over, especially the Aquilegia, Actea, Thalictrum and Lobelia.

Question: Is it true that beer can be used to eliminate slugs in the garden?
Answer: There are some persons who use it but I have no experience. We use slug bait.

Question: Does P. marginata need lime?
Answer: It will tolerate some lime but a neutral soil is best. The soil however should be friable by adding sand, fine gravel or chicken
grit and the long top root should be placed between two rocks with the crown on a horizontal position.* * *

**Question:** Is chlorox good for damping off?

**Answer:** I have never used it but according to some, one teaspoonful of Clorox is used in one cup of water. I have used Natriphene by dissolving one 73 grain tablet in two and a half gallons of water.

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This for seedlings or as a wash for bulbs. Also have used a mild solution of potassium permanganate.

**Question:** Will you please tell me which Primroses will do best in a moist woodland condition?

**Answer:** We use the Candelabras in our moist woodlot and surrounding the pools made by a living spring. The edges are planted to P. acuta and the stalked Julianas as well as denticulatas, (where there is especially good drainage) and P. Florendae.

**Question:** Can you tell me why I lost my P. Mooreana?

**Answer:** Our records show that the plants of P. Mooreana did just splendidly and flowered late, September until after frost (which did not seem to harm it,) November 15th. It lived for three years and then disappeared. It was impossible for us to collect seed as it bloomed so late the seed did not mature. Like all in the Capitatae section it is subject to root rot and must have extra sharp drainage, which I thought was supplied. It is one of the most beautiful forms in that section.

**Question:** Can you tell me what I did wrong as I did not get any germination from P. auricula seeds even though I followed directions.

**Answer:** There may be any one of several reasons why there is no germination. The seeds were covered too much as only a light sifting of washed sand or a sprinkle of shredded sphagnum moss is needed. There are those who advocate a plastic cover but if that is done care from damping off must be taken. There are others who plant seed in a cold frame to allow alternate freezing and thawing to ready seeds for germination in spring. If flat is treated with 100 degree water and then snow or crushed ice when moisture is again needed germination is encouraged. If no germination in four to six weeks then place flat out doors with a screen covering until next season.

**Question:** I potted and put my newly received Primroses in my greenhouse on the outer edge of the lights so they would recover from transportation and four days in a box. Did I do right?

**Answer:** You certainly did what was right if the plants are in a good condition. The easy and best procedure is to place plants in a pan in a very mild solution of any fertilizer with only the tips of the roots in solution. Place pan in a cool place (basement) for twenty-four hours before planting in pots or in outdoor beds. If wilted place a paper collar around plant for a day or two.

**Question:** How much winter covering is needed for Primroses?

**Answer:** Any light material that will not pack is good to protect Primroses from winter sun and wind. Evergreen branches, corn stalks or salt hay is suggested. A compost mulch should be placed around plants taking care none is on the plant crown. The auriculas should be mulched with lime chips and slug bait added to both.

**THANKS, MR. FOSTER**

Word has been received from Mr. Lincoln H. Foster that because of his long standing interest in the American Primrose Society and the genus Primula he will promote the Society among members of the American Rock Garden Society, will encourage special sections for Primroses in their shows as he goes about lecturing, frequently with a special lecture on primroses.

Knowing of his tight schedules and involvement with the American Rock Garden Society, this effort on his part will be a great contribution to our Society. We, the members of the American Primrose Society are sincerely grateful for this promotional effort on the part of Mr. Foster.
He is a tough old gardener who does not get a thrill out of flattery once in a while. I fell for it once and discovered a new adventure in Primula culture.

It happened while a club was touring our garden some years ago. Some of the members were examining a bed of doubles and certain species that we brought back from New Westminster. One of the ladies excitedly asked me to tell them about a planting of tall, pink Primulas up in the orchard.

The year before some friend had given me a packet of seed of the Primula pulverulenta—the Bartley strain. I had splendid luck with seed and seedlings and now had a mass planting of over a hundred plants at the peak of color perfection. The luscious green foliage completely covered the ground. The three-foot scapes carried six or eight whorls of perfect pink flowers.

As the enthusiasm of the members increased, the questions as to colors, types and cultural problems of the Candelabra species came thick and fast. In the end the pulverulenta bed stole the show. Because of their enthusiastic praise of that planting under an old apple tree, I decided that the amateur growers were missing a great deal by not knowing the Candelabras.

We soon added several varieties to our garden.

Although I had read and talked much about the P. Candelbra I soon found that I knew very little about the cultural requirements and the adaptability of this variety of Primulas. We know little about a plant until we have grown it over a period of years. Having grown several varieties of this section for some years now, through two of our coldest winters and the hottest and driest summer of our time, I think that I now know something of the sterling qualities of this rugged Asiatic Primula and its ability to withstand adverse conditions. It needs no pampering.

Summer Bloomer
The Candelabra is a late bloomer giving us a riot of color in late May, June, July and August—after other species of Primulas have lost most of their attractive beauty. This late blooming characteristic is, perhaps, a serious handicap—the main reason why this most interesting group is not often found in the Northwest gardens of today. The average gardener depends upon displays at the nurseries in March and April and the April Primrose shows to make his selection of varieties of Primulas. The Candelabra are not ready to display their beauty for many weeks later. Consequently these plants are not on public display to compete with the early bloomers.

Few amateurs realize that March and April are only the beginning months of the Primula parade here in the Northwest. By selection of varieties we may enjoy continuous bloom from March to September.

Because of the size and vigorous growing habits of the Candelabras they are without rival in bold, massed plantings in borders, in woodlands, along streams, near ponds and in damp places—so long as they are in high filtered shade.

Give Lots of Room
Do not be discouraged if you cannot give the Candelabras a choice of these favored sites. Given plenty of room, shade, fertilizer and sufficient water, they will tolerate a lot of abuse. The finest Primroses of any varieties we have ever grown were in beds under old apple trees up in a high, dry orchard.

The Candelabra species need ample room—eighteen to twenty-four inches apart—for perfect de-
development of the plants, and most of them grow to a large size. The best effect can be achieved by using one species or variety in large drifts or groups. Such bold plantings of *P. pulverulenta* or *P. japonica*, when in full bloom, will attract instant attention.

I would like to see such a planting of a hundred plants in the shaded glen along the bank of the creek at Penny Creek Farm*—the most ideal location I know of for the *Candelabra* species. Aunt Emmy's Helleborus would certainly have to use face paint or hide in the foliage. Of the thirty species recognized by authorities, less than a dozen of them, to my knowledge, are to be found in any one Northwest garden.

The Species

A brief description of a few outstanding species may induce further study on your part and open the way for new adventures and beauty in your garden.

In rank of popularity the *P. japonica* perhaps stands first, because it has long been a favorite in English gardens for borders and woodland plantings. It is a shade lover and grows best in rich, friable soil such as leaf-mold. This variety is a vigorous grower, producing large leaves, tall stout scapes supporting six to eight whorls of flowers in many color forms from white through pink; rose to deep red. The

Unfortunately, the bank at Penny Creek Farm is still waiting for a planting of *Candelabra*. Thought those of you who knew me when I wrote the Aunt Emmy column might be interested in knowing I'm still living at the farm. For how long, time will only tell. The Hellebores are still very much in evidence. — Emma Hale (Aunt Emmy)

Postford white, with large pure white flowers is one of its best hybrids.

*P. pulverulenta* is a most robust species producing twelve-inch leaves and scapes fully three feet tall. Both the scapes and calyx lobes are thickly covered, with characteristic white farina. The flowers vary in color and are set in tier after tier on the stems. It is a true perennial and will do well in most any Northwest garden.

Propagation is by means of division of the side growths and seed which it produces in great quantities. A truly handsome *Primula* is the Bartley strain of the pulverulenta, produced by G. H. Dalrymple of Bartley, England. It is a beautiful shell pink, one of the finest I think, and the variety is definitely fixed.

*P. Bulleyana* is another vigorous grower. It needs ample room. It is considered one of the best *Primulas* in the *Candelabra* section. It blooms four to six weeks later than other varieties—in July and August. The whorls of flowers slowly unfold insuring along period of bloom. The painted terra-cotta buds are very attractive and the color range includes yellow, buff, burnt orange and terra-cotta. The whorls of bloom appear on scapes which may reach fully three feet in height. A bold, massed planting of *P. Bulleyana* is most effective. The plants require half shade, moist soil of leaf-mold and if given lots of water will stand almost full sun in the Puget Sound area.

The *Phelodaxa* and the *P. Poissonii* are two species of the *Candelabras* that retain their leaves and continue growth throughout the year.

*Primula allionii* has been grown by alpine gardeners for a great many years, for it made a sensational debut in alpine gardening circles early in the nineteen hundreds after having been discovered in the Maritime Alps between France and Italy.

It has always been a rare plant, even in the wild, and varies considerably in the colour and size of the flower. The type plant makes rosettes of sticky greyish green leaves about one or two inches high, and simply covers itself with bright pink flowers an inch or more across, during the last of March and early April.

In England, on our recent visit, we saw some beautiful colour forms at Mr. Joe Elliott's Broadwell Nursery. One, a lovely large flowered pure white form named 'Avalanche' was only to be admired, but, sad to say, not possessed! We did, however, become the lucky owners of a real beauty called 'Apple Blossom' — a very dainty pale pink. This was grown from seed by Mr. Frank Barker before the last war and was shown at Royal Horticultural Society Shows among many others.

*Primula allionii* has been grown by alpine gardeners for a great many years, for it made a sensational debut in alpine gardening circles early in the nineteen hundreds after having been discovered in the Maritime Alps between France and Italy.
other seedlings and variations which he grew and for which he was famous.

Another form we obtained is known as 'Crowsley Variety'. This has deep pink or crimson flowers, which I have not yet seen, but we are hopefully looking forward to seeing a bloom or two on our plant next spring. This remarkable plant was collected in the wild by Dr. Roger Bevan in 1928, who collected it out of bloom, and who found later he had unknowingly collected a real treasure.

Having been told that P. allionii rarely sets seed, I was surprised and delighted to see that my new precious wee plant of 'Apple Blossom' has developed a tiny seed pod. It will be watched anxiously to see if it develops properly. I suppose some kill-joy will come along and tell me that I should remove it for the good of the plant!

In nature P. allionii is found on hard dry limestone; therefore, in potting up, one should use plenty of limestone chips in the compost, and quick drainage. It should be watered from underneath, for water lying between the tiny rosettes is apt to cause mould and rot. Most of the plants I have seen were grown in a cold-frame or alpine house. It is said, however, to be possible in the open garden if planted under an overhanging rock. It is thoroughly hardy, but winter wet on the leaves is the great hazard.

My oldest plant, which I obtained from Ed. Lohbrunner in Victoria five years ago, has been a source of pride and joy each year. It is planted on tufa, is growing ever larger, and each spring covers itself with bright pink blossoms!

Reprint from Alpine Garden Club, Bulletin of British Columbia.

IN MEMORIUM

Robert M. Bellis, husband of our Editor Emeritus Florence Bellis, died June 2.

Survivors are his wife, Florence, two daughters, Mrs. Elizabeth Willson of Salem, and Mrs. Sylvia Cook of Portland; and seven grandchildren.

Mr. Bellis was born and educated in Australia. He was a rugby and track star at the University of Sydney where he majored in law. He served in World War I for four years as a mounted trooper in the Australian Light Horse Brigade in Palestine, and Egypt, and Arabia and was contact man for Lawrence of Arabia.

He later moved to California, developing an interest in timber and logging. Working his way up, he became district sales manager based in Portland for Weyerhaeuser Company. Five years later, in 1943, he moved to Astoria where he became a partner in a lumber supply firm.

He and his wife Florence moved to Lincoln City in 1969.

The American Primrose Society wishes to extend their deepest sympathy to Florence in this great loss.

Primroses have been my favorite flowers for many gardening years, in many areas in the country, and now that we have moved to the Pacific Northwest where they are particularly happy, I would like to learn still more about them. Membership enclosed.—Mrs. H. Granau, Oakridge, Ore.

I am interested in being a member of the Primrose Society. I have several plants which I bought at a garden center some years ago at a closeout and have enjoyed their beauty in the spring. I now found out there are many different colors and varieties. I am interested in finding out more about primroses, and especially interested in learning more about starting primulas from seed.—Robert Differt, Northfield, Ohio.

It was sweet of you to include with my membership card the packet of Iceland Poppy seed. I have had them in the past, but lost them one bad year. I had thought to get them established again, now here is my chance.—Dorothy Marshall, Portland, Ore.

I enjoy the Quarterlys very much and read past issues over and over.—R. Tichy, Brookfield, III.

I am very fond of primroses and polyans, but there are so many varieties and they all sound so lovely, that I have a hard time choosing which new ones to add to our garden. I try to add a couple new varieties each year.

Fragrant ones of course get top priority; this I try to stick to since reading the book "Fragrant Year" by Mrs. Wilson. Both my husband and I enjoy the Quarterly and read from cover to cover; in fact I enjoy reading them more than once. I wish there were more books written on Primroses.—Mrs. K. Huffman, Burnaby, B.C., Canada.

I have debated long as to whether I should join again. I am a good...
Is it odd that I, who grow no primroses, should be a member of a Society specializing in their beauty? No, for I remember—from over sixty years ago—my Grandmother Taylor's garden walks.

Seven stone steps led from the lawn to the lower garden, and to the right of the steps were the lilacs with old, species hooped daffodils under and nestled close to the rocks, primroses. Then down the hill to the currants and the walk turned right to the pear tree a good hundred and fifty feet with flowers of the long ago on each side and always, here and there, primroses.

At the pear tree the walk swung sharply up hill to the stone garden wall and here the primroses really grew and here we children picked them by huge double handfuls for our moms. I suspect we often picked flowers Grandmother would much rather we had left alone. If so, she never mentioned it.

What varieties did she grow? I have no idea. I remember best the yellow cupped one with a red eye that bloomed but little above the foliage. There were several that grew on tall stems and the red one brought over from old Virginia that would bloom only every other year. Or is it the blue with a yellow eye that I remember most? I do not know. They were harbingers of spring and gladdened our winter weary spirits. Grandmother and her garden walks have been too long gone. The house is burned and other permitting, will have a bigger garden of three acres, which I care to specialize in Primroses? . . . Mrs. V. Sauer.

**SPRING HILL FARM**

P. O. Box 42
GIG HARBOR, WASH. 98335
Fresh Seed of
Polyanthus, Acaulis, Juliae
$1.00
Double Varns,
$3.00 for 50 seed
Transplants in August
RUTH S. BARTLETT

Spring Primrose gardens have a wonderful garden of probably every perennial that will grow in our area, plus thousands of daffodils in over sixty varieties yet primroses are my downfall.

I have tried so many ways to grow them from seed and I have so little luck. Like one plant out of a package of seed. I am a widow on S.S. and have time to devote to my garden of three acres, which I care for myself. Would appreciate seed list and also would like to be in a Round Robin if you will put me in touch with proper person. Would love to attend one of your shows some day. — Mrs. H. Pochurek, Mantua Ohio.

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Transplants in August
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PRIMROSES NEED CARE IN THE FALL

In the fall of the year primroses need a little care. Cut leaves back on plants such as Candelabra, Denticulata, etc., to one inch of crown. Cut any of the long leaved ones back as water stands in crown in fall and winter, their leaves are so long and compact, this causes crown rot to the plant.

Polyanthus and auricula plants may bloom all winter, so just remove the bad leaves, dry, diseased leaves hold water and cause mildew and sluffs the plant away.

Primroses have one insect that attacks in the Northwest, red spider, makes the leaves look rusty in August, spray for this. In Sept. it's best to pull the diseased leaves and burn them, plants are dormant and will produce new leaves in place of old and start blooming. Sprinkle Solidust around the plants for worms and some slug bait. Use tree leaves for mulch, leave crowns slightly exposed, to avoid holding water in crown.

Primroses that go underground you may cover, such as P. Sieboldii, P. Rosea, etc. In the spring your winter covering of tree leaves may be turned under for mulch, they should be pretty well decomposed, use a little well rotted cow manure and some bone meal in the leaf mulch. The plants will reward you with their carnival of colored blooms. Divide primroses every three years after blooming season. They go dormant after blooming and divide easily.

**Mrs. Laurence G. Tait**

**PRIMROSE SEED**

Hand Pollinated Polyanthus and Acaulis. Available in individual colors or mixed at $1.00 per packet. At least 125 seeds to a packet.

Sorry to say the 1971 crop of Double seed was very scant. Hope to have enough to fill the back orders. Weather permitting, will have a bigger supply in 1972.

Still have a good selection of double plants at the nursery. Priced at $2.50 and up.

Seed list sent at request. Time permitting we set other primula seed.

**WAGON WHEEL GARDENS**

Rt. 4, Box 364
Gresham, Oregon 97030
Lighting the Way to —

HEALTHY SEEDLINGS

By Alice Hills Baylor

The ease with which sturdy perennial garden plants and vegetables can be raised from seed by the use of fluorescent lights would surprise those who still cling to the window sill method. Under lights the seedlings are not “leggy” nor do they fall over and die. They are all deep green of leaf and strong of stem. The uniform amount of light is the reason.

Here at SKY HOOK FARM in northern Vermont we raise hundreds of garden Primroses from seed without the aid of a greenhouse. The heavy snow and the extremes in temperature in February and March (from 20-30 above to 20-30 below zero within a twenty-four hour period) would make greenhouse management difficult. Then too, a greenhouse would be useless during other periods of the year as all our Primroses are hardy.

There are ready made frames containing fluorescent lights on each shelf for those who desire to use only a few plants. If one wishes to have a good supply or a complete garden of plants or vegetables the use of a four foot tube will be the answer. Our equipment is built to accommodate a large number of flats. We use the double four foot tubes under which we can place six of our flats.

Benches were built to a convenient working height in our 60 degree basement and covered with heavy plastic. Strips of wood one inch wide are laid on the plastic between which are laid the heating cables and the flats set on top of the stripping. Thus air and heat can circulate under the flats.

Above the benches are the free swinging frames on which are mounted the four foot double fluorescent lights. These frames have pulleys so that the space above the flats can be adjusted. Two to three inches is the proper height of lights above seeds that have just germinated. As the seedlings grow the lights are raised. If annuals are being raised they will grow fast and the lights raised accordingly. Perennials are slower in growing and can take lights at a lower level. If the plants look “leggy” put the lights closer as they will be reaching for more light. Most annuals and perennials need from 16 to 18 hours of light a day for good development and growth. Aluminum foil is tucked to a frame at the back and on the sides of the bench so that more light will be reflected into the flats.

The time to plant perennial seeds is February and March for they take longer to germinate and are slower growing. Annuals should not be planted as early unless one has ample space to take care of the plants when it is time to transplant the seedlings into a growing flat or into separate pots.

All the material for mixing the growing medium is brought into the basement in fall. Buckets of washed sand, good garden soil and compost or peat. The best mixture we have found is one third each of sand, garden soil and wet or soaked peat. This should be sifted twice and a hand full of crushed egg shells added after the sifting. The result is a fine light moisture holding medium, one that will allow the thread-like roots to penetrate. On transplanting the seedlings to the growing flat or to separate pots one will discover the tiny roots have adhered to a piece of egg shell. The mixture into which the seedlings are transplanted when in second leaf is the same as above with a trowel full of dry cow manure added to each bucket of mix. Just before transplanting a light solution of fertilizer is given to the little plants which will help the shock of being moved. Water them well when transplanting with the same mild solution of fertilizer. There should be no wilt.

In the event one has any mold on the flats it can be controlled easily and at once with a mild solution of potassium permanganate. We do not cover our flats with glass or plastic as some advocate and as a result we have no mold on our flats. Over watering is the cause of mold. With the heat cables beneath the flats to encourage germination the danger of mold from over watering is at a minimum.

To prepare the flats for planting a layer of small stones or broken clay pots is placed on the bottom for drainage. This must be done also if pots are used in place of flats. Over this we place the sifted growing medium and gently press, allowing a half inch of space to the top of the edges of the flat. The seeds are sprinkled over the top and light sifting of sphagnum moss over the seeds. If one is planting large seeds a light sifting of clean sand is all that is needful. The flats are placed under the fluorescent lights at once. To encourage perennial seeds to germinate and espe-
cially Primula seeds the flats are covered with snow as soon as planted. After that when moisture is needed we use 100 degree water. This method is alternated until germination begins which is from two to three weeks. When the weather is warm the flats are put outdoors covered with screens to protect the little plants from heavy rain and also from birds. In August the plants are set out in the nursery and mulched with compost to conserve moisture and help to establish the plants. In spring the plants are again mulched into which has been added a generous amount of good fertilizer. We use the dry cow manure as it has no weed seeds and is an organic fertilizer.

There is great satisfaction in growing plants from seeds. It is also a way to enjoy gardening for a longer period of the year. One can observe the growth of plants and become expert in knowing what is needed if the seedlings are not growing properly. The roots should grow down and they do if the medium is light enough. If the medium is too rich in plant food the roots will curl up towards the top of the flat. Then too, the plants one has raised from seed seem to be of greater value than those bought from a nursery. It often takes patience and there may be failure but without a doubt there is pleasure.

At Mrs. Baylor's suggestion we are reprinting her article, which she originally wrote for the Indoor Light Gardening News. She has had many requests for this information directed to her as our very capable Question and Answer Chairman. See page 108.

ON THE COVER
Primula obconica and Primula arendsiis multiflora showing the relative size of two plants of the same age seven months from sowing. Primula arendsiis multiflora is the hybrid form of P. obconica produced by Mr. Georg Arends, which is non-irritating to the skin. It is available only in one color at present. It is the smaller plant and illustrates the normal size ratio of the two plants.

By Elemer C. Baldwin

American Rock Garden Society
(founded 1934)
cordially invites you to join its growing list of enthusiastic members
Annual Seed List, Quarterly Magazine
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Closter, N. J. 07624

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1971 Fall Quarterly

AMERICAN PRIMROSE SOCIETY
SEED EXCHANGE FINANCIAL REPORT—OCTOBER, 1971

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Submitted by Fayme Haverty Past Chairman

P. clusiana
P. minima
P. tyrolensis
MOUNT ANGEL, Oregon—The 1971 Mount Angel Primrose Show was most spectacular for its flower arrangements in the children's section. Not only did the great number of them outshine any of the previous shows, started here in 1947, but the quality and design was surprisingly good.

It started with talks given by Mrs. Victor Hoffer to the grade school children the week before the Primrose Show, which was April 18. This included all grades, one through eight, in both local schools, St. Mary's on College Street and Mt. Angel Elementary on Marquam Street.

Mrs. Miller told the youngsters the basic principle of flower arrangement was self expression. She explained the line, the filler and the center of interest which was the Primrose. And as she talked she demonstrated her words by making the sample arrangements. Many of the children eagerly accepted the ideas and some sixty arrangements found their way to Kennedy High School where the Garden Club staged the show. These in addition to the Primrose Plant exhibits raised and exhibited by the young ones.

The judges were enthusiastic about the children's arrangements and plants and most of them got ribbons, many of them blue.

The ribbons pleased the youngsters almost as much as the prizes they received late that afternoon when Mayor Joseph Berchtold awarded them.

Mrs. Hoffer, who was instrumental in rousing the children, was also this year instrumental in having them give ten times their former support to the Show, is likewise a councilwoman and a member of the Garden Club. The Garden Club is also a civic organization and does many things like planting trees, shrubs, flowers—donated, of course, for the city, schools, etc.

To get back to the 1971 Primrose Show, we must admit that due to the uncontrollable weather, this year's show had less variety in Primrose exhibits than some years.

The sweepstake for the best children's arrangements went to Douglas Berning with Gayle Bean as runner-up, in the 12 year and under class. In the potted plant division for this class the sweepstake went to Sheryl Klein of Silverton and to Anita Schaecher of Mt. Angel as runner-up.

In the 13 to 16 year class, Theresa Schaecher was sweepstake and Connie Kirk as runner-up for arrangements. For the potted primrose Veronica Klein, Silverton, won sweepstake and David Welton, runner-up.

WE APOLOGIZE

In the Summer 1971 issue of the Quarterly on page 91, several charter members were mentioned. Unfortunately we misspelled Mrs. Anderson's first name. It should have been Mrs. Hilga Anderson. Sorry, Mrs. Hilga Anderson, and to your four generations of interested primrose growers, we apologize.

Emma Hale, Editor
(Continued from Page 126)

winter. Most other species are herbaceous.

The rich, golden yellow flowers appear freely on the scapes in whorls well above the foliage. It blooms in June and July, well ahead of the other species.

P. Cockburniana is the smallest of the Candelabra species. The ovate narrow leaves are not over six inches long and the scapes barely a foot high, bearing four or five whorls of vivid tangerine or orange-scarlet flowers. These brilliant colors attract attention from afar. The hybrids are sturdier plants with a greater range of color form.

Other less common species of this section are the P. Poissonii, P. burmanica and P. Bessiana.

By the time you have become familiar with the fine varieties discussed above and received your full share of praise and flattery, you will be searching far and wide for other species — even to the woodlands and marshes of old England.

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
Hon. Sec. A. Marlow
2, Glebe Close Thornford, Sherborne, Dorset, England

Application for Membership
Mrs. Lawrence G. Tait, A. P. S. Treasurer
14015 - 84th Ave. N.E.
Bothell, Washington 98011

I desire to be admitted to (or to renew my membership in) the American Primrose Society. Herewith I enclose my dues as checked below, which will include four Quarterlys a year.

Active Membership, One Year.......................................................$ 5.00
Active Membership, Three Years........................................... 14.00
Overseas (the same as above), One Year.....................................£  2.00
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DAYLILIES, GOURDS, HERBS, Wildflowers, Birds, Rock Gardens, Growing Under Lights, ads swaps. Published monthly. Sample copy 25c. $2.50 one year OZARK GARDENS, Aqua Caliente Star Route, Julian, Calif. 98036.


PICTORIAL DICTIONARY of the Cultivated Species of the Genus Primula. Published by the American Primrose Society, $3.00 per copy. Send orders and checks to Mrs. L. G. Tait, 14015 84th Ave. N.E., Bothell, Washington 98011.

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Membership of $1.50 per year includes Year Book
Hon. Sec. A. Marlow
2, Glebe Close Thornford, Sherborne, Dorset, England

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