President's message

Greetings, old friends and new, as I once again take on the duties of president of the American Primrose Society.

My goals are simple—mainly to continue the healthy trend of the society by increasing membership, organizing more local chapters and converting affiliated societies to chapters.

This is not a one-person job. It will take the enthusiastic efforts of every member to convince friends and other flower-oriented people to part with their money to become members of the American Primrose Society. If everybody will work at it, we should double or even triple our membership within a year.

Never before has the APS had so much to offer its members. We have talented editors producing a top-notch quarterly, an extensive seed exchange (always in need of more species seed collected from the wild), a large collection of primula slides available for loan to members (also in need of more pictures of primula species in their native habitat), a round-robin program for those interested in corresponding with other enthusiastic growers and hybridizers, primrose shows and meetings where all are welcome and friends are made.

I am looking forward to a great year for APS in which we all get better acquainted and make many new friends for APS. I cannot guarantee to answer everyone, but if you have ideas or comments you think are good for the society, I would appreciate hearing from you.

Herb Dickson
Primula burmanica with rose pink whorls of flowers

The lure of challenge

More than half of the members of American Primrose Society live outside the temperate weather zone considered ideal for growing most primulas. Should they give up?

Extensive research at Ottawa, Ontario, Canada, offers realistic help for these growers. Results indicate that certain species will tolerate extremely cold winters and hot summers. Some even prefer a harsh climate.

This "hardiness handbook" should be useful to APS gardeners in many parts of the world.

by Trevor J. Cole

Agriculture Canada
Central Region Research Branch
Ottawa Research Station
Ottawa, Ontario K1A OC6

The cultivation of the genus primula in eastern Ontario is difficult. In winter it is very cold with temperatures dropping to -30°C (-20°F) or lower at night and often staying below -20°C (-4°F) for days on end. Fortunately these low temperatures are usually preceded by snow, which has a great insulating value. In the occasional winter when the snow cover is minimal, considerable numbers of all perennial plants, including primulas, may be lost.

The spring season is telescoped into a few days and it is not unusual to have snowdrops, crocuses, daffodils and tulips all in flower at the same time. Temperatures in summer may reach 32°C (90°F) with high humidity, leading to damage to plants and pest growth.

Because of the prolonged low winter temperature, growing the candelabra type primulas is also difficult. They should be grown in bog conditions but will not stand up to being encased in ice all winter. A way of building a drainable bog on level soil was not devised, and candelabras were grown in regular beds.

In spite of these difficulties more than 100 species and hybrids were grown and flowered during the last ten years. These plants have nearly all come from seed obtained from the various societies' seed exchanges or from one of the specialist seed houses, such as Far North Gardens.

Plants have been grown in either a shady border under mature trees or in a lath structure which provides shade.

Species with smooth leaves in the auricula section, which seem to tolerate more sun and alkaline soil conditions, were grown in a well-drained soil mix in frames. Lath sashes provided some protection from the sun during the hottest weeks of July and August.

Many of these species have been grown several times and have been tried in different locations. However, some obviously are not hardy and seldom survive even the first winter. These have all been included in the following notes as a guide to others with similar climatic problems. It would be interesting to learn just how much cold some of these species will stand.

Since the plants in any one section of primula generally require similar growing conditions and treatment, the species grown were tested section by section including the introductory notes on their culture.

Section 2: Auricula

Primulas in this section are, for the most part, smooth leaved, fairly small and lime-tolerant. They will stand a fair amount of sun without burning but must have an adequate supply of water at all times. In nature most of these species grow in quite exposed locations in gravelly type soil poor in nutrients, very well drained but with a regular supply of snow-melt water.

P. allionii — One of the first species tried. It died during the second summer, probably because it was in the wrong location.

P. auricula — Three seedlots were started in 1970, 1971 and 1972. The first died in 1977, the others are still growing well. It is doubtful that the species are found in the wild; they are garden hybrids. They flower reliably in early May and stand a fair amount
of neglect. "Fire King," the one named strain that was tried, was not true to name. It had yellow-green flowers without a trace of "fire."

P. clusiana — Seed started in 1976 flowered this past year for the first time. It was very early flowering, the first blooms opening on Apr. 28.

P. glaucescens ssp. calycina — This grew for six years and flowered several times before dying during a prolonged summer drought.

P. glutinosa, P. viscosa and P. wulfeniana — These have only been tried once, and none survived the first winter.

P. pedemontana — This close relative of P. rubra grew for several years and flowered freely. It is distinctive because of the fringe of reddish hairs on each leaf. It multiplied slowly and eventually disappeared. It is suspected that its demise was due to slugs, which seemed extra abundant that year.

P. rubra — After P. auricula this is probably the best known species of this section. It is very amenable to cultivation, and one group of plants is now in its tenth year. It is synonymous with P. hirsuta and P. ciliata and is offered in seed exchanges under all three names.

P. spectabilis — Distinctive because of the fine white margin of its foliage, P. spectabilis was only short-lived in Ottawa. It survived the first winter and made good sized clumps by the fall, but for some reason it did not make it through the second winter. Only one sample has been tried, so it may yet prove reliably hardy.

Section 4: Candelabra

This section contains some of the best known and certainly some of the most showy species of all the primulas. In general, their culture is not difficult except in areas with harsh winters. They require a neutral to acid soil, rich in humus, and a location with a high water table. Many will actually grow under bog or marsh conditions.

In Ottawa they grow best in areas of light shade, but they do not seem to thrive if the shade cover becomes too dense. Given a suitable location, most of the species in this section will flower freely and will propagate themselves by seed most readily.

P. aurantiaca — One of the most striking of the section as far as color is concerned. It has not, however, been reliably hardy here; of the two samples grown, one died the first winter. The other grew for 18 months and flowered before the second winter killed it.

P. X bullesiana — For some reason this popular hybrid, which appears in almost all the seed lists, receives little attention in the literature on primulas. Even the A.P.S. "Dictionary of the Cultivated Species of the Genus Primula" ignores this fine hybrid, although it includes many other crosses. In the list of species and synonyms there is a listing for P. X edina (bulleyana X beesiana) which may well be the correct name for this hybrid, but no mention is made of it in the text. The strain Asthore (usually listed as "asthore hybrids") is the reverse cross. This strain bloomed here in August.

As the name suggests P. bulleyana is a cross between P. bulleyana and P. beesiana but, unlike many crosses, it comes true from seed. The plants are intermediate in form between the parents and flower in a wide range of colors from yellow through orange, red and rose to a dark purple. Seed is usually offered with a note on the color of the parent plant, i.e. rose-pink form. In 1970 three different color forms were tried, but all died the first winter. This was most probably due to poor growing conditions rather than from cold.

P. bulleyana — In recent years, under improved conditions, plants of this species have survived over winter and have flowered in mid-June.

P. burmanica — Two seed lots of this species have been grown. One, germinated in 1970, survived three winters. The other has survived one winter to date, as has the cultivar 'Yellow Pagoda.' Both flower in June.

P. chungensis — In "Asiatic Primulas" the author, Roy Green, states that this species likes sandy soil with plenty of leaf mold and ample water during the growing season. This is probably why it has grown quite well here. Although plants started in 1970 have died, those started in 1976 are still growing well.

P. cockburniana — While it has never been long-lived under the conditions found here, this species usually survives for two or three years and produces its bright orange-red flower spikes each June.

P. helodoxa — Like the previous species, this also is fairly short-lived here but usually grows well enough to produce its airy scapes of bright yellow flowers.

P. japonica — Probably the best known of this section. Even under our somewhat dry conditions this grows and flowers well and is long-lived—six years at least. It sets copious seed which will overwinter and germinate in the spring outside, but due to the lack of constant moisture the seedlings seldom reach maturity. Given a moister location
this species would be self perpetuating here.

The following named clones have been grown and flowered and are listed here to resolve the confusion of names offered in the various seed lists. Flowering usually begins in late May, and it is often July before the final whorls of flowers open.

Bonfire — orange-red shades. Not a strong growing form.

Glowing Embers — a mix of dull orange to purple.

Miller’s Crimson — one of the older and better selections.

Postford White — best white strains.

Red Hugh (also listed as Red Hug) — rather dull red shades.

Silva Tarouca — this should be a good orange; the only batch to flower so far was mixed, poor colors.

Valley Red — variable, some plants good bright red, others muddy.

In addition, color forms such as alba, orange, purple are sometimes offered. Unless seed is collected from isolated plants of good color, seedlings will always be variable. Some of these named forms which were carefully selected initially are becoming degraded in this way.

P. X lissadell — Although this is often listed as a P. japonica cultivar and as ‘Lissadell Hybrids, it is in fact a cross between P. pulverulenta X cockburniana. They did not grow well.

P. prolifera — This certainly did not live up to its name here. It did not proliferate at all. In fact, it did not survive two winters.

P. pulverulenta — Both the species and its selection ‘Bartley’ (usually listed as ‘Bartley Strain’) grew well at first. They came through the first winter in good shape, grew well and flowered in June. Again the plants formed plump resting buds, but for some reason they did not make it through the second winter. The two winters were similar in snow depth and minimum temperatures.

P. wilsoni — This species has never survived the first winter in spite of numerous attempts to grow it.

Section 5: Capitatae

A small section with only two species, one of which has five subspecies. They grow best in a woodland type of soil, on the light side but with plenty of humus.

P. capitata — This species has not proved very successful in Ottawa. Seedlings started indoors in February flowered the first summer but also died the first winter. The same thing happened to two of the subspecies, mooreana and spaerocephala.

Section 7: Cortusoides

From almost any point of view, some of the members of this section are among the most successful of all the primulas that were grown. They are long-lived, free flowering, tolerant of adverse conditions and easy to grow. Provided they are given light shade and the occasional top dressing of leaf mold or peat moss, some species respond very well. Others are a bit more demanding.

P. cortusoides — A very satisfactory plant although the rose-violet flowers are a very harsh color, difficult to blend. The flowering scapes (in late May) reach about 45 cm

(18”) at maturity, half as much again as reported for wild plants.

P. geraniifolia — Although one batch of this species is now entering its third season, it is one of the most difficult to grow of the plants in this section and seems particularly attractive to slugs.

P. jessoana, P. mollis and P. polyneura — In spite of several attempts to grow these three species they have never survived the first winter.

P. loeseneri — Received as P. paxiana, this has lived through one winter so far and flowered in late April.

P. saxatilis — Apart from being slightly earlier to come into flower and having a greater ability for repeat blooming, this species appears to me to be identical with P. cortusoides. Possibly neither batch of seed is completely true to name.

P. sieboldii — Aside from an annoying trait of dying down early, this is one of the most successful garden primulas. The flowers are large, pink to white or two-toned, with an irregular notch or laciniation at the top of the petal. It is doubtful if we have a true representation of the species; however, these color forms are well worth growing. Selected forms, such as ‘Southern Cross,’ with attractive bi-color flowers, are worth searching for.
Section 9: Denticulata
This is another small section, but it contains probably the most widely grown species of all.

P. denticulata — The drumstick primula is, in Canada at least, the most widely available of all the primula species. Most gardeners know its fat, pointed resting buds with their yellow farina. It is very tolerant and will grow in almost any soil except heavy clay if it gets shade during the heat of the day. The foliage is rather coarse late in the season and provides a good hiding place for slugs.

Probably the first primula to flower, its blooms start to show color while still in the bud stage and as soon as the snow melts. A vigorous plant will produce flower spikes up to 60 cm (2') tall, but at the time of maximum display they are shorter than this. The variety cashmiriana, sometimes listed in catalogs as a separate species, is slightly more dwarf and paler in color, being more lilac than violet. P. denticulata has many color forms sometimes offered as named clones. 'Alba' is white, while 'Rubin' is a good red-purple, but variable, so that selection is necessary to get the brightest colors to plant out.

P. erosa — The only other species in this section that was obtained. It died during the first winter.

Section 11: Farinosae
A very large section with more than 80 species and many additional subspecies. It is divided into eight subsections and contains species native to Europe, Asia and N. America. This section, and the species after which it is named, get this name from the farina or flour on the leaves and flower scapes. In general, they seem to be short-lived so seed should be collected at every opportunity. They do not readily cross pollinate between the species, so seed collected in the garden will generally come true to type.

From a cultural standpoint this section seems to need similar conditions to the candelabra—shade, humus and liberal applications of water. Most are quite small so they are ideally suited to a trough garden, small rock garden or the front of the primula bed.

P. algida — One of the few species in this section which was killed during the first winter.

P. darialica — Very similar in habit to P. farinosa but a bit taller, reaching 10-15 cm (4-6") but with the same pink flowers set off against the mealy-gray foliage.

P. farinosa — One of the most delightful small primulas. Although it is short-lived (4-5 years here) it seems reliably winter-hardy.

P. frondosa — Quite similar to the last species but generally more robust and with lilac, rather than pink flowers. It has proved to be even shorter-lived (2-3 years) but again can be relied on to flower freely and usually to produce some seed. Flowers lack the yellow eye of P. farinosa and appear a couple of weeks earlier.

P. halleri — This is the correct name for the plant sometimes offered as P. longiflora. It is fairly distinctive, as the foliage is a much paler green and not as farinose as the previous species.

P. intercedens — A native North American species, closely related to P. mistassinica which is better known. It is a delightful small plant but not as showy as others in this section. For a fuller description see 'Some North American Rock Plants' — bulletin of the American Rock Garden Society, Vol. 30, Number 3, July 1972.

P. luteola — The yellow flowers in late May make a refreshing change from the pink to purple blooms we have had so far in this section. Foliage is a light green with very little farina. This is a comparatively new species with me and has lived through one winter so far.

P. melanops and P. modesta — These also have survived only one winter to date but have yet to flower.

P. rosea - If the drumstick primula has any rivals for earliest bloom, this species must be considered in the running. The bright pink flowers, surrounded by pink tinged leaves, push their way through the soil as soon as the snow melts. The foliage is very small at first; but as the season progresses it grows and loses its pink tone. By mid-summer is up to 20 cm. (8") in length.

The secret of success with P. rosea would seem to be the provision of light shade and plenty of water during the summer. Given these requirements, it is quite long-lived. One planting survived seven years here in less than ideal conditions. The variety grandiflora with larger flowers is sometimes listed, but no record of it was found in taxonomic literature. It is probably a cultivar. A smaller and neater selection called 'Petite Pink' is rarely listed in nursery catalogues. It is a charming plant with paler flowers.

P. yargonensis — Two samples of this species (one received as P. wardii) have been grown. Neither lived long enough to flower.

'Petite Pink' cultivar of Primula rosea
Section 12: Floribunda

The species in this section come from the lower arid slopes of the western Himalayas, from Iran and Yemen. They should prove successful in the southern U.S.

P. edelbergii — A newly discovered species which is described in the bulletin of the Alpine Garden Society, Vol. 32, Page 285 (1964). It should not be hardy here, but seed germinated in 1972, lived through one winter and flowered in late June 1973. The flowers were bright yellow on stems about 30 cm (1' tall). Flower heads are sparse with the individual blooms facing upwards. Even if it were hardy, it would have curiosity value only.

P. verticillaga — One parent of the better known greenhouse primula P. X kewensis. Neither this nor its subspecies boveana came through their first winter.

Section 17: Muscarioides

The flowers in this section do not look like most peoples' idea of primulas. They are borne in dense terminal spikes, like those of the grape hyacinth from which the section gets its name. Cultural requirements for this section are not demanding. A woodland type of environment (humus soil and shade) seems to suit them well, but additional water must be provided during summer.

P. concholoba and P. muscarioides — Two samples of the former and three of the latter have all died the first winter, so we must assume they are not hardy here.

P. viali — If only one primula is to be grown, it would have to be this one. The bright red overlapping calyces at the top of the spike with the pale lilac bell-shaped flowers at the base make an unforgettable combination. The fact that it flowers in July when most other primulas have finished must be also added.

Easy to raise from seed, it will flower in its second summer. Unfortunately it is very short-lived here, often being a biennial and fading away once it has flowered. However, a light feeding with a soluble acid-based fertilizer immediately after flowering seems to have brought the latest batch of plants through this critical period.

Section 18: Nivales

Another large section, with almost 50 species, which is divided into four subsections. They are among the most difficult of all primulas to grow successfully, which, no doubt, accounts for the lack of seed in the exchanges. They are plants native to the high alpine meadow with plentiful supply of water; however, they will not tolerate bog conditions.

The overwintering buds are subject to rot and, in wet climates, should be protected with panes of glass or translucent fiberglass. Since the plants are deep rooted, it is very difficult to grow them well in pots and in an alpine house. In areas where there is good snow cover this problem does not occur. However, such areas often have fairly hot summers to which the growing plants object.

P. chionantha — Three samples of this species have all survived for two or three years and flowered before dying. It would appear that it is culture rather than climate which is the cause of their demise. The new foliage is strongly farinose when it first appears. This later wears off, and the leaves become pale green. The flowers, in several tiered scapes, are off-white and vanilla scented. This is a species worth preserving with.

P. macrophylla — Of the six species in this section that were tried this is the only one that has not flowered. It did not live long enough.

P. sinoplantaginea and P. sinopurpurea — These two species are somewhat similar in appearance, although the former is the smaller one. Both were obtained in the same batch of seed and were grown together. Both produced their flowers the second year, those of P. sinoplantaginea being a darker shade of purple. However some plants of P. sinopurpurea are still alive after four years; the other species died out after two.

P. stuarti — This bright, yellow-flowered species has withstand the cold of two winters so far.

P. tschuktschorum — This species with pink flowers has been growing for a year.

Section 20: Parryi

A small section with only six species, it is unique and of particular interest because they are all native to North America. However, seed is rarely available and the cultivation demanding so it is unlikely that they will become common garden plants.

P. parryi and P. rusbyi — Seed of these two species was sown early in 1978. The seedlings were transplanted into a humus-rich soil in a lath house later in the season. Both flowered last summer.

Section 21: Petiolares

Another very large section divided into five subsections (one of which is divided into seven groups) and containing more than 50 species. Very few of these species are ever available, however, from which it may conclude that, as a whole, they are not amenable to cultivation. Only two of all these species have been sown. One failed to germinate.

P. sonchifolia — The chief of beauty of this species was its plump yellow resting buds; the violet to blue heads of the flowers were never seen. It struggled through a couple of winters and again it was suspected that it was the lack of ideal conditions rather than cold that killed it.
Section 25: Rotundifolia

This section has nine species of which only two can occasionally be found in seed lists.

P. gambeliana — Only one sample has been successfully germinated. It did not live through the first winter.

Section 26: Sikkimensis

An Asiatic section which, in nature, grows in damp meadows, and along streams. It follows that, for successful cultivation, water must be plentiful during the growing season. Shade is also beneficial in the hotter areas of the continent. The plants seem to be at about the limit of their hardiness at Ottawa. A winter with less than the normal snow cover or lower than average temperatures causes high mortality. These species seem to cross-pollinate readily, but only within the section; and yet, strangely, no hybrid names seem to have been given to any of these crosses.

P. alpicola — While this has only proved to be short-lived here, the seven attempts to grow the species and its varieties have usually resulted in flowers before cold finally killed the plants. Even in the wild the flower color is variable, which has given rise to the three varieties which will breed true from seed. Var. alba is white, Luna is pale yellow and violacea a purple shade.

P. firmipes — Said to be the choicest of the whole section, it is also subject to winter rot. This could explain its death the first year.

P. florindae — One of the best of the yellow flowered species, P. florindae produces its large head of flowers on towering stems up to 120 cm (4') tall in late June. It is at its best in boggy conditions, even to the extent of having standing water at the base of the plant. However, it is sufficiently adaptable to grow in ordinary soil if it is watered frequently and thoroughly. Seed labelled P. florindae 'Hybrids' gave rise to plants with flowers ranging in color from pale yellow to near orange.

P. ioessa — If the last species was the giant of this section, this is most surely the dwarf. Flowers, in shades of pink, are carried in a few flowered umbels on stalks about 15 cm (6") high. Again, this was short-lived here, probably because of insufficient moisture.

P. secundiflora — Two samples of this died before they produced flowers.

P. sikkimensis — Similar to P. florindae in flower but not as robust, it has not grown well at Ottawa, probably as our soil is too dry. The variety hopeana is much more variable in color, some plants being almost white, others close to orange. This species has been crossed with P. florindae to produce a plant which is intermediate between the two parents. It has also been crossed with the next species, and plants of this cross flowered here last summer.

P. waltoni — Although this species has been grown on several occasions, there is no record to be found of its flowering and that it lives more than two years here.

Section 28: Soldanelloideae

One of the most difficult of the sections to grow, these are high mountain plants and require a good blanket of snow to escape winter rot.

P. nutans — Even with an early deep snow cover these plants did not live to grow again the second spring. However, only one sample has been tested so far.

Section 29: Soliei

Another high-elevation section which is rare in cultivation.

P. rupicola — This species, which is listed as belonging to section 28 in its entry in the A.P.S. Dictionary, in reality belongs in this section. It did not seem to be hardy.

Section 30: Vernales

Although this section contains eight species, these in turn have over 80 forms, varieties and subspecies. When all the cultivars and hybrids are taken into account, the total must run into the hundreds. In this section are found the well loved garden favorites — primroses, cowslips, polyanthus in their many colors and oxlips.

Most are good, easy going, garden subjects, tolerating a wide range of soils. They do not grow well in heavy clay nor in very sandy soils, but most garden soils are suitable, particularly when enriched with leafmold, peat moss or very old manure. In those areas of the country where the summer sun is very bright, some shade during the heat of the day is desirable.

As with all primulas, adequate water is a must. Mites seem particularly fond of the members of this section and close attention should be given during the summer.
months to prevent a rapid build-up. As soon as signs of damage (paling of the foliage) are seen, spray with a miticide, giving three applications at 10-day intervals.

P. abschasica — This species is not well known and did not flower at Ottawa. Descriptions can be found in the Alpine Garden Society Bulletins, Vol. 30, page 111; and Vol. 40, page 251.

P. X anisiaca — A hybrid between P. elatior and P. vulgaris, it is closer to the latter in appearance. It was not as easy to cultivate as either parent.

P. X digenea — Another naturally occurring hybrid with the same parentage as the last. It is intermediate between the parents and seems to grow well.

P. elatior — The oxlip is well known in much of the country, but in Ottawa it is not nearly as hardy as the cowslip and rarely is found in gardens. It can be distinguished from the cowslip by its lack of scent, by having flowers which are not as pendulous and by the calyx being more or less tubular, rather than barrel-shaped. It is considered to be the showier of the two.

P. juliae — Seeds of this species have not been obtained, but many of the hybrids X P. juliae were grown. These are derived from crosses between P. juliae, P. vulgaris and P. elatior. They differ slightly in form, in height and in hardiness as well as in color.

'Betty Green' was a very pale yellow and lived four years. One of the dwarfest cultivars.

'Butter Ball' was one of the showiest and earliest to flower. Plants were growing well and beginning to spread when vandals stole them over a long weekend.

'Dorothy,' another very dwarf-growing clone with creamy flowers tinged with pink. It grew for eight years.

'Gold Jewel' is similar to 'Butter Ball' but is darker yellow and not quite as tall. It is still growing well after 12 years.

'Gold Jewel,' named form of Primula X juliana

'Kinlough Beauty' is another cultivar which seems very hardy. Unfortunately the apricot coloured flowers are shily produced.

'Lady Green' has never flowered freely either, but it has been growing since 1960.

'Mrs. King' has pink flowers which cover the plant. It is a very vigorous plant forming large mats and seems as much at home in the sun as in the shade. It could not be traced when the plant was first obtained, but it was in a record book for 1958.

'Netty Gale' is a pale yellow form which is not at all vigorous. It died after seven years.

'New Hybrids' are a seed strain that come in mixed colors. There is a good range of colors, but they haven't been grown long enough yet to be sure about their hardiness.

'Roots' was a very dwarf, free-flowering, bright red cultivar. Unfortunately it was neither vigorous nor hardy.

'Roberta' is another very hardy form which is still growing well after eleven years.

'Snow White' was one of the most tender of all the selections. At least it was the first to be winterkilled.

'Wanda' is probably the most vigorous of all the cultivars. It forms large mats which are covered with the magenta flowers in early May. It was growing here for many years but suddenly died in 1977.

P. X polyantha — Surely the general favorite among all the primulas is the polyanthus. They are grown by florists for sale as pot plants, by home gardeners to brighten up a dull corner and by the primula enthusiasts who delight in the many different forms. They come in whites, creams and yellows; shades of blue from sky to navy; pinks and reds from shell to burgundy. Some have margins of a different color while others have double flowers.

About 20 different named forms have been grown. A few general comments would apply to them all. The general cultural remarks at the beginning of this section apply equally to polyanthus, with the additional warning that they are not as deep rooted as others in this group and thus are more likely to frost heave.

They are very early flowering but not quite as early as P. denticulata and P. rosea. However very often they will give additional blooms in the fall up to a heavy frost. A good display of flowers on a dark red form on Nov. 15, 1979, was still visible. None of them appeared to be particularly hardy or unduly tender; however, they are not very long-lived in a harsh climate such as this.

P. X tommasinii — A hybrid between P. veris subspecies P. columnae and P. vulgaris. It is very similar to P. veris in growth, but the flowers — instead of being plain yellow — have a band of red at the tips of the petals. It is somewhat variable in color, so it is worth selecting for the brightest colored seedlings.

P. veris — The cowslip is the hardiest of all the primulas. It will grow in full sun and dry locations but grows better in moist shade. It is the only primula that will self seed and grow to maturity here. Plants have been growing here for over 20 years. Both spider mites and slugs have a great liking for this species, but it seems to survive both and gives a good display of flowering each spring. The variety algida was, to me, about identical with the species, but possibly a shade paler in flower. Received as P. uralensis,
Primula X tommasinii resembles cowslip with orange-red edge on flowers. The variety macrocalyx was not as good a garden subject as the species. The enlarged calyx almost hid the petals, when seen from above. This is contrary to Doretta Klaber’s remarks in her book “Primroses and Spring,” so possibly these plants were not typical of this variety.

P. vulgaris — The namesake of the A.P.S., the primrose in nature is yellow; but hybrids and forms in a wide range of colors are now available. They are often listed in catalogs under their invalid name of P. acaulis. They have proved reasonably hardy here but have never become well established and multiplied. Two of the named forms, Butterscotch and Harbinger, have survived two winters so far. The variety heterosis had flowers which seemed larger than the type.

Plants grown from seed received as P. woronovii flowered very early with masses of white blossoms. It appears that this is a name of doubtful validity for a form of P. vulgaris which occurs in Russia. (See bulletin of the Alpine Garden Society, Vol. 30, page 117). It is a good free flowering plant that seems reasonably hardy.

Section unknown

P. connunsata — Plants grown from seed received under this name did not live through the first winter. No reference to this species in any literature can be found. If anyone can give me more information, it would be gratefully accepted.

At least six plants, usually 12, and sometimes up to 50 plants, have been grown of all the species and hybrids listed above. In addition, about another 20 species have been grown where only one or two seeds germinated. These have not been included since the performance of such a small sample may not be typical.

Not too much space to descriptions was given since these can be found in most books on this subject. However, it is felt that experiences on the cultural requirements and potential hardiness of plants as grown in Ottawa, Canada, may be of use to members, particularly those who do not live in the temperate area on the west coast.
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From the mailbox

The weather has turned warm here and I've quite a lot of my doubles showing well for the first time, so I am asking to be released from judging so they can be benched and looked at critically and impersonally by someone else. None is perfect, but I've got some interesting colours—a pretty lavender, an acide yellow and a light purple from a cream x yellow, and a coppery one from Mrs. Dargan (an old Irish striped) crossed back to a Dargan-Barnhaven double seedling. One day I hope to get a double Mrs. Dargan, which was in existence 100 years ago. It's an endless pleasure even if not often successful. I've three good crimsons—good re colour but petals too raggy individually for my taste, but I'm waiting for my last good red to open. It had good petals last year.

All good wishes,
Margery Thompson
4 Eastlands Crescent
Dulwich
London SE 21 7EG
England

We are a few gardeners who are preparing to reestablish the auricula here in Denmark. In the past it has been one of the most popular plants in Danish gardens, but in the last end of the previous century it vanished from the Danish gardens. From England we have got some help through Mr. Wigley and Mr. Douglas, but we shall like to obtain seeds from different origin.

Hugo Thomsen
Kirkegade 60
DK-7430 Ikast
Denmark

Friends, I hate to tell you but I must let you know that I disagree with you — or whoever wrote the advice on soil in Vol. 37 No. 2 page 39. I could have accepted if the "Many primulas prefer sweetness to an acid soil" had read "Many primulas prefer sweetness added to an acid soil." But as I understand it as I read further down I come across warning against peat and recommendations for adding phosphate and potash, nitrogen, oyster shell and gypsum. And, how should a beginner be able to correct an acidity she/he does not see is harming the plants?

I am very much afraid that by adding all these ingredients the beginner is murdering his/her plants — and not only the plants but also, I'm afraid a new member has been lost.

The whole thing is much simpler — so much that it may not even be popular to some specialists: that no general requirement can be given for a genus over 500 species of mostly alpine, perennial or monocarpic herbe, mostly natives of the N. Temperate zone, with outlying species in S. America, N. Africa and Java. These species are arranged in 30 sections according to their probable relationships. Some sections are being known as different in cultivation but what now is understood is that climatical conditions means as much as the soil; one only has to visit the Royal Botanic Garden in Edinburgh and see how rare, difficult and very temperamental primulas prosper in the peat garden, primulas from many different sections i.e. alpicola, apocita, aureata, bellidifolia, boothi, bracteosa, caldernana, clarkei, eburnea & edgeworthii are a few among the many I have seen there.

And that brings me into something I intended to start with: MOST — approx 90 per cent of all primulas will love to grow in a peat garden, according to my own experiences and what I have seen; the rest will grow in ordinary garden soil and these you can hardly kill — P. dentulata, the vernales section (will probably more than any other section together with the auricula sec. like conditions as described in the above mentioned quarterly) — and here have I seen the rather uncommon P.megaseefolia growing among a group of rhododendron near the sea in mild climate.

To make the whole thing short: the primula a beginner is likely to get hands on is very

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unlikely to be one of the difficult and rare ones: make sure the soil is not stiff by adding peat and half-decayed leaves and sharp sand to it. If you want to add fertilizer to i.e. P. denticulata, use OLD (5 year) cow manure as a topdressing early spring when new growth starts — but many times it should not be necessary in good garden soil; if you live in the south with a hot summer, you may be prepared to go through a great job by creating the best conditions for your primulas — see Vol. 36 No. 4 page 8. But, ANY effort will be worth it.


Finally I must say that I do not yet — unfortunately — know anything about the American primulas — but surely they can be cultivated — if one JUST could get material to try with. The latest seed list does not seem to offer many American species.

Hope that you will read this in the same spirit it is written: only to make more people have success with their primulas and so they will tell it to their friends. And they again to their. And so on.

With best wishes,
Kjeld O. Jensen
Vanás
280 40 Skanes Fagerhalt
Sweden

The Juliana treatment in the last quarterly is of special interest to me for the historical information it contains. I think I could add one bit to the Wanda portion.

About 30 years ago I got a collection from a woman in Everett. Among them was one she merely identified as a Borsch seedling that was crimson, so I tagged it Borsch Crimson and later supplied Carl Starker with some which he sold by that name. Meanwhile I had increased it and lined out divisions to the extent that about 1947 or 1948 I had put thousands into the Seattle wholesale market.

I had by then decided to name it Amy for my mother, but I was to see it labeled as Wanda, of course, in the salesyards, where it was snapped up. It is brighter, as Mrs. Springer points out, and with a fine line of white on the innermost part of the petal. The color is not only a better one, it is non-fading and non-paling as the weather warms. Also, as the author pointed out, the plant is mounding, the stolons not being so long as some, but also the foliage is shorter and a richer green and not elongating to hide the flowers as do so many as the days go by. I have had some fall and winter flowers in mild seasons.

There is a striking landscape planting around a power substation in northeast Seattle in which this is a featured groundcover of striking impact in spring; and I suspect the entire neighborhood will reflect the rich color as bits and pieces find their way out to nearby admirers. Perhaps they already have.

I fully realize there are other crimson ones as well, and I have grown a number of them for comparison. They are not so rich and vigorous as Amy, so I feel most confident in identifying the northwest "Wanda" as being that. Mrs. Springer calls it brilliant "magenta," a word subject to many interpretations and maybe she is not referring to the one at the power substation. In that case there are two well-distributed false Wandas in the Seattle area at least.

Also, I seem to have acquired a reputation of sorts from having been published on searching for P. cusickiana, and I am being asked how to grow it! I can only state that where it was really flourishing was in seepages but with the crown above general level a wee bit and kept there by proximity to small pieces of basalt.

Of course, in summer these seeps are bone dry yet cool. The soil seems highly mineral, and yet there is a trace of humus from ancient grasses—at least at Nesbit Butte, now blasted away completely by the USFS. The sod of it on Nesbit Butte was also raised, about three or four feet, a pocket in the basalt, or a shelf, and it was so happy here in with club-mosses that the plants and flowers too were like an overgrown seed flat—solid cusickiana. I really cannot advise anyone further on how to grow it, and I myself never could get a small sod collected at Hat Point to put out a leaf. It can undoubtedly be too dry, and maybe that was why.

Roy Davidson
Seattle, Washington
Botanical correction

We think the Alaska primrose puzzle has been solved. At last. Please use these photos as a guide to relabel the color photos in your fall 1979 quarterly, Vol. 37, No. 4, pages 4, 5 and 8.

P. cuneifolia ssp. saxifragifolia

P. borealis and P. siberica in the wild

P. tschuktschorum in the garden

P. tschuktschorum at Platinum

P. cuneifolia ssp. cuneifolia at Attu

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Primrose Hill, Bell's Bank, Buckley, Worcs., England

Did you remember?

Please pay your dues to:

G. K. Fenderson
Grout Hill
South Acworth, NH 03607
Dr. Ralph Benedict and his lovely wife, Dorothy, chose a nice cottage on a private Michigan lake for their retirement. A small flower garden weaves in and out of a wooded slope.

Just about every type of flower is represented in the garden. An emphasis seems to have been placed on the dwarf, the rare and difficult species to grow.

**Features rare plants**

Wild orchids grow in micro-habitats, but who else has the rare ram’s head and tiny twayblade? Ferns from all over the United States and some foreign countries are featured throughout the garden. The lime-loving Harts fern and walking ferns may grow just a few feet from an acid bog containing candelabras.

Trilliums run the range from the three-inch snow trillium to the large grandiflora with all the color variations in between. Included is the white form of the red trillium.

A large area of Michigan’s rare and seldom seen dwarf lake iris lets one know it has found a happy home. One of Dr. Benedict’s first loves must have been the heuchera. Several species are scattered all around.

**Spring spotlights primulas**

The hillside presents a different face at the different seasons. Spring is one of the most beautiful times. Thousands upon thousands of primulas show the results of several years of crossing. There are dozens of hybridizing projects going on. One of Dr. Benedict’s important ones involves the colored calyx.

Bed after bed presents species after species. It is not uncommon to find the same species of plants obtained from several different people growing side by side. Hundreds of primulas hit the compost pile each year to make way for new ones.

**Wins hybridizing award**

Dr. Benedict—Herbert to his friends—won the national primula hybridizing award for 1978. Every 10 years a new plant gets special attention. This is the year of the hosta.

This busy grower started life with a serious handicap when polio struck him at age three. He didn’t walk for nine years, but his grandmother worked with him until he could walk again.

Attending Michigan State University during the depression years to earn his doctorate of veterinary medicine was another character builder. He also has taken advanced work at Cornell University.

**'Waste not, want not’**

He lives along the line of “waste not, want not.” A five-year supply of wood all cut and stacked gives evidence of a restless person who must keep busy even during the winter months.

One of Herbert’s great assets is his wife, Dorothy, who is an excellent and creative cook. She made their dinnerware by hand, imprinting each piece with different plants. Dorothy’s coffee and cookies are the grand finale of our many garden visits.

**Dorothy helps collect**

She has accompanied Herb from coast to coast, from caves to mountain tops collecting native plants. On those rare occasions when Herb temporarily forgets the name of a plant, Dorothy can be counted on for genus and species.

The Benedicts also are developing a miniature apple orchard. Each dwarf tree has as many as six grafts on it, and more scions of other varieties are being added each year.

Several clubs have contributed to Dr. Benedict’s enjoyment of gardening, including groups devoted to cactus, hosta, rock garden plants and primulas. He has been a regular contributor to the American Primrose Society quarterly for many years.

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The Benedicts are wonderful people with an outstanding knowledge of a wide range of plants. Each visit opens a new door.

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Slide Chairman
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Chehalis, WA 98532

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Hon. Sec. David G. Hadfield
146, Queens Road, Cheadle Hulme, Cheshire SK8 5HY England
National trophy winners

Spring shows feature top plants

by James Menzies

Our editor Cy Happy came perilously close to an embarrassing clean sweep of trophies at the 1980 annual show.

More than 500 entries from 22 exhibitors were displayed at the show, sponsored by the Washington State Chapter of APS, at Meeker Mall, Kent, on April 19 and 20. A special feature was an educational display of Juliana hybrids.

The annual business meeting was held at a banquet April 19 at which the Juliana theme was continued with table favors of plants (a Peter Klein cross) donated by the Dicksons and a slide presentation on famous Julies by Cy Happy.

APS trophy winners were Agnes Johnson trophy and Capt. Harkes trophy, both for best gold lace, Cy Happy; Frank Michaud Vernales primrose, best hybrid

P. yargongensis, best species

Best acaulis-polyanthus

Best named green-edge auricula at national and Tacoma shows

Herb Dickson brought it. Is it P. abschasica?

Carty's showy double polyanthus grown from Tasmanian seed

for named show auricula, Cy Happy; Bamford for show auricula seedling, Cy Happy; John Schuman for named alpine auricula, Cy Happy; John Haddock for alpine seedling auricula, Cy Happy; C. F. Hill and Haydon trophies, both for alpine seedling auriculas, Cy Happy; Rae Berry for primula species, Jim Menzies; C.C. Chambers for
What is a primula?

You mean besides being my favorite group of plants? That's a tough question. But there are some characteristics that seem to say primula. Remember when you sent home a sample of what you thought was a primula that you found in a damp seepage under a cliff in Zion National Park, Utah? You were right. That was Primula speculicola in the farinosae section. Now what made you think it was a primula?

First the leaves all appear to be coming directly from the root. Perhaps the addition of a bit of meal on the leaves was a further clue on your species. Primula leaves are always one-pieced, but the edges can be smooth, toothed or lobed. Flowers can be one on a stem, in umbels of two or more on a stem or two to many whorls on a stem.

The green calyx in back of a flower is normally five toothed. Flowers beginning with a tube generally have five overlapping notched petals and five stamens. Most species produce both short-syled (thrum) and long-styled (pin) flowers - but not on the same plant.

Taxonomists have divided primula into 30 sections, eight of which include familiar garden plants. They range from P. minima, a half-inch high member of the auricula section, to P. helodoxa, a six-footer in the candelabra section.

Primulas circle the northern hemisphere on cliffs and alpine meadows, bogs and tundra, coastal plain and woodland. Whether from humble haunts or celestial screes, primulas continue to charm plant lovers around the world.

seedling double auricula, Cy Happy; Ivanel Agee for julie hybrid, Rosetta Jones; and Wesley Bottoms for hose-in-hose, Cy Happy.

Chapter trophies went to Earl Welch for brightest garden auricula and Cy Happy for seedling show auricula. George Carty was sweepstakes winner.

Best in division winners included the following: Ross Willingham, acaulis; George Carty, polyanthus; Flip Fenili, acalis-polyanthus; Rosetta Jones, juliana hybrids; exhibition, Cy Happy; species, Irene Buckles; Chehalis Rare Plant nursery, growers exhibit; Dorothy Dickson, design; Tony Trujillo, junior.

APS chapters report successful spring shows. Eastern Chapter met at Cornell University for show, slide presentation by Kris Fenderson and afternoon tour of Cornell Plantations.

Doretta Klaber Chapter held its first show with 106 entries in six classes from 11 exhibitors. Julianas were at their peak, denticulas were "glorious" and auriculas and pubescens were well displayed, according to chairman Anita Kistler.
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Diary of a Primroser

by Cy Happy

Spring came with a rush this year. The primrose and auricula flowers were here and gone so quickly. They peaked for the Tacoma and the national show, so I should not complain.

Interest was focused on auriculas. The public has become aware that auriculas are very hardy and can be exceedingly beautiful. The plant sale tables could have sold their stock several times over. Since auriculas are most obliging and will bloom in small pots, we should start a lot now for next year's sales.

We need help with articles

Articles I would like to get for the quarterly are "Primulas of the Caucasus" and "Sieboldii Shows in Japan." I have started writing to the botanic gardens in the Trans-Caucasus region. Maybe we'll learn about the white form of P. juliae, the many colors of P. heterochroma, the real P. abchasica and the elusive P. megaseaefolia from the southeastern shore of the Black Sea. If growers do not get permission to send an article, perhaps they can send a little seed. Would a member from Japan volunteer a sieboldii article?

P. woronowi bloomed for me this year. The plant is of the P. vulgaris type, but the flowers were very large—white with a yellow eye. After blooming in early March, large upright leaves appeared. It is from along the Caspian Sea and into the Caucasus.

Our translator, V.O. Virhau, sent me some beautiful personal book plates showing an early rendition of auriculas. Quality like that could only come from a dedicated hobbyist.

Primrose growers enjoy study weekend

Quality was the word for the late winter study weekend in Victoria, B.C. Sybil McCulloch and her Vancouver Island Club gathered an outstanding program at the lovely old Empress Hotel. At the banquet we found ourselves seated with Miss Emily Sartain, botanical artist who displayed her paintings of native plants; Albert de Mezey, expert plantsman; and Rodger Whitlock, whose many interests include English show gooseberries. Miss Sartain presented our Miss Emily with a beautiful homemade doll and later a flawlessly knit Christmas stocking. The primula buff had plenty of grist for his mill throughout the weekend. Rube Hatch polished it off with a fine illustrated talk on the petiolares primulas.

The 1981 northwest study weekend is set for Feb. 21-23 at the Fort Worden conference center near Port Townsend, Wash. Total cost—room, board, conference—is $69, before Feb. 1. If you bring your own camper and food, the cost drops to $19. Send your $25 (or $10 for campers) deposit to Hollis Phillips, Registrar-Treasurer, Northwest Study Weekend, 7550 - 39th Ave. NE, Seattle, WA 98115. We know you will enjoy Fort Worden, an old coast artillery post. Save time for a beach walk. Coral pieces are among the treasures along the shore.

On to Nottingham

APS has been asked to take part in a publicity stand at the Fifth International Rock Garden Plant Conference, April 13-16, 1981, at Nottingham, England. Any volunteers for this duty?

Rita just pointed out that show and alpine auriculas are the perfect plant for wheelchair gardeners. Auriculas thrive happily in 4-inch pots on a bench in an unheated greenhouse. A sweet, open compost, consistent attention and shade in summer is the formula for a most rewarding project. Can we help someone get started?

Learning from C. C. Heimburger

At the Victoria meeting I was fortunate to spend a little time with C. C. Heimburger talking about juliae hybrids. He must give us an article on his findings. Here are a few examples:

1. Two genes are involved in order to have the desirable creeping root stalk. Both must be present.
2. Cowichan red is purple minus the blue gene.
3. Juliae carries a color intensifier which wants to intensify blue—also intensifies red and yellow.
4. P. vulgaris has a gene which dominates the creeping root stalk characteristic.
5. Black is created by the presence of two dominant yellow and two dominant blue genes.
6. P. pallasi is not closely related to P. elatior.

Mr. Heimburger is still waiting for a plant of P. megaseefolia to use in his breeding program. Can someone help? C. C. Heimburger, 2060 McNeill Ave., Victoria, B.C., V8S 2X8 Canada.

Another society in Primulaceae is the Cyclamen Society, care of Col. James Amars, Foxbreak, Courtsmount Rd., Haslemere, Surrey, England GU27-2PP.

Time to grow good laced seedlings

Bernard Smith, Kent, England, raised a silver laced polyanthus from seed I sent him. He asks if we have a separate class for silver laced. We have a class for laced polyanthus, which covers gold laced, silver laced and any variations of exhibition quality, that might come along. I just had a first bloom of a rose red silver laced poly.

We have a new trophy, the Ivanel Agee Memorial Award for laced polyanthus seedlings. It is a china teapot decorated with laced polyanthus painted by Wanda Adams. Let's see some good new seedlings in 1981.

Had a note from Ireland from our friend and author Sheila Pim. She has contributed the chapter on history of Irish gardening in a beautiful new book, "Irish Gardening and Horticulture." Hardbound L7.50 (Irsh). Softbound L6. Available from the secretary, Royal Horticultural Society of Ireland, Thomas Prior House, Ballsbridge, Dublin 4,
Ireland. Ireland has produced the garrigues, many juliana hybrids and double primroses. Sheila Pim loves the primroses. Should be something here on our plants.

More books for beauty and good health
Another superb new book for plant lovers is "Wild Flowers of Mt. Olympus" with 465 fine colored illustrations. It is offered by the Goulandris Natural History Museum, 13 Levidou Street, Kifissia, Greece. Price is $90 U.S. This is six-color printing at its best.

A timely book from Rodale Press, Organic Park, Emmaus, PA, 18049, is "Rodale’s Solar Growing Frame." The book tells how to moderate temperature extremes in order to have cooking and salad greens year round. Primrosers could adapt for growing their favorite plants. However, my book came with seed packets of unusual oriental greens. The primroses will have to wait. The seeds are from Herbst Bros., 1000 Main St., Brewster, NY, 10509.

Gardeners should be thinking about being able to grow much of what they eat. The state of the economy may make it a necessity. To get in the mood I recommend subscribing to "The Family Food Garden," 1818 Garden Court, Marion, OH, 43302. It is $4.97 a year in U.S.

No room in the greenhouse
I was asked several times at the shows how I got so many plants in good condition at once in so small a greenhouse. The answer is that fewer than half the plants were in the greenhouse. The rest wintered in a covered east-facing open porch. Some plants in the greenhouse failed to produce buds at the right time and were moved to the porch.

Teapot trophy for laced seedlings

Rare Dwarf Slow Growing Conifers
Flowering shrubs and unusual rock plants suitable for Bonsai culture are listed in our catalogue, Alpenglow Gardens.

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Donald Peach
P.O. Box 183
Hales Corner, WI 53130
and nicely budded plants on the porch were moved to the greenhouse. The greenhouse was suddenly full of flowers.

I use rainwater from a large garbage can alongside the greenhouse door for watering. Few years I have added potassium permanganate to the rain barrel in the form of half a dozen Walko tablets obtained from feed stores or from Black Leaf Products Co., Elgin, IL 60120. Cost for 1000 is $3, and $5 for 2000.

Sunday, May 18, 5 p.m. saw the giant mushroom cloud of ash go up from Mount St. Helens. So far the ash is not coming this way. A major eruption can put up a high elevation cloud that filters sunlight to the point of eliminating the summer weather around the world. Might be a good summer for salad crops—and primroses.

Jim and Marion Menzies’ recent trip to Washington, D.C., and New England took them to the National Arboretum and a meeting with Ted Dudley, who will spend the summer collecting plant material in central China. Jim is waiting to learn what primulas were found. We can hope for an article for the quarterly. Wonder if seed will be collected?

Jim has a Xerox copy of the primula portion of the 1974 Flora of China. We hope to publish it as soon as it is translated. As if that is not enough, he will soon have the primula section English translation of the Flora of USSR. The world of primula is still in the discovery stage. We can expect exciting developments.

A call to the Herb Dicksons in Chehalis confirmed that the APS picnic July 12 would be held as usual as long as Mount St. Helens behaves herself. Dicksons received three-fourths of an inch of ash. Herb has been plowing in it. Dorothy says she can’t sweep it or wipe it away—has to use the vacuum. We’ll find out how plants deal with it.