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At the June meeting of the American Primrose Society in Portland, Oregon, Mrs. A. T. House was appointed as Chairman of the Informal Flower Show, held at each meeting, to succeed Mrs. Goodspeed. A surprising number of exhibits for that time of year was shown. The horticultural exhibits included Primula nutans, Bullseyana, and Candelabra hybrids in shades of orange, tangerine and pink. Among the flower arrangements was a beautiful one of P. japonica and roses and a bowl of Polyanthus. Exhibits of P. Littoniana and the Polyanthus Cowichan, as well as P. capitata Mooreana were shown.

Mr. Ewell was appointed librarian and rules and regulations for handling the books in the library were adopted.

Mrs. Levy gave a detailed report on the first issue of the Quarterly, and also plans for future issues. Mrs. Pearson, who handled the mimeographing, told of the limitations which it imposes. President Bradford then called for a rising vote of thanks to both Mrs. Levy and Mrs. Pearson for the splendid work in the preparation of this first issue.

A picnic at The Redwoods, home of Miss Dora Broetje at Courtney Station, took the place of the regular business meeting of the Society in July. No formal business meeting was held. President Bradford announced the appointment of Mrs. Pearson to handle publicity in out-of-state publications. Our hostess served coffee and punch. The evening was spent in pleasant relaxation and inspection of Miss Broetje's
new Primrose plants.

The August meeting also took the form of a picnic, this time at the home of Mrs. Lester Pepper of Milwaukie, Oregon. Mrs. Pepper specializes in tuberous Begonias and Fuchsias as well as Primroses, and a delightful evening was spent in her beautiful grounds. A rarity for this time of year was displayed by Mrs. S. R. Smith, who wore a corsage of several varieties of Primroses. A delicious potluck dinner was served with coffee furnished by the hostess. Again no formal business meeting was held.

Ivie Spencer, Rec. Sec'y

Despite the omission of the Treasurer's name and address in the last Quarterly, many delinquent dues found its way to the proper destination. Should any have become discouraged and need re-routing, the Treasurer, Mrs. C. F. Lincke, receives new memberships as cheerfully as renewals at 1226 S.E. 52nd Avenue, Portland, Oregon.

Comments on articles based on observation and experience are invited and will be appreciated by the membership.

A light covering of evergreen boughs placed over the plants after the ground is frozen is adequate protection in very cold climates or when severe weather threatens in the more mild regions. This is done not so much for warmth as for breaking the full blast of dehydrating winds that sap moisture from the leaves at a time when roots are unable to replace the loss because of the frozen earth.
classifying them, we could not resist the search for these various species in the hope that we, though uninformed, might recognize some of their characteristics in the Auriculas growing here in the garden. It may seem a foolish game, but it is interesting and stimulating to believe that the lovely mealy-throated yellow blossoms topping the powdery, egg-shaped leaves must be related to old Papa (or Lams) Auricula—or that the floppy, sometimes odorous-leaved individual leaning all over the place could be kin to grandparent Viscosa whose long neck is topped by a one-sided head of bright purple blooms. The little fellow with a close head, or umbel, of bluish-mauve flowers that try to hide in the broad and short, deeply toothed, yellowish hairy leaves, must be a descendant of Hirsuta, the darling of them all. Villosa of the longer, limper leaves than Hirsuta, and often toothed foliage from which rises the taller stem topped by a close ball of rose-pink bloom, here attaches herself to the family tree.

It is believed by one authority that Venusta, a natural hybrid of P. Auricula and Carniolica, entered the family circle, contributing the blue shades to an almost rainbow color range of yellow, pink, red, purple and brown. White crept in by way of a white Hirsuta, known as Niven of the Gardens, Viscosa alba and Villosa alba.

Flower forms of the Garden Auricula may be round, flat, with yellow centers, devoid of meal, from which radiate dark into light shadings of any one color, being the true Alpine Hybrid type so sought after in England—or may be the lovely, wide-open solid or two-toned blooms with ruffled edges that circle a broad white or yellow powdered zone, or pastel as it is also called, in the center. Eyes in all best forms should be filled with pollen-bearing anthers. Dentate petals are not considered a good point for show, but are interesting garden subjects. Trumpet-shaped flowers should not be taboo if they have good color—or the rare white—

with heavy texture and held proudly aloft on stout stems. A thin, floppy bloom on anyPrimrose is a poor subject for garden material.

From a present-day package of mixed Auricula seeds one may meet with some astonishing forms of foliage and flower. Being hybrids, they do not come true to the seed plant. In commercial gardens or private collections where others of the Auricula group are growing near either from accidental crossings or hand-pollination, you may expect, and do frequently get, most unusual plants. Marginata has surely entered the blood stream in later years. The magnificent Linda Pope is such a one taking the exquisite, open, lavender-blue blossoms with powdery throats and deeply-toothed foliage from Marginata—and the broader, silvery-mealed foliage from P. auricula. Now and then you will come upon others among the seedlings which show definite leanings toward Marginata of the narrow, long-saw-toothed leaves, the whole dusted by generous hand with yellow meal. Look, too, for the old "Leather Coat" which may cut-crop in tones of deep buff or bright tan. The rare double, much sought after during the Auricula fad in England, appears once in an age. There are a few known doubles and semi-doubles to be had from commercial growers. If you have not set giant size of blossom and gorgeous color as your standard of perfection, don't discard the miniatures in foliage or flower. They are charming in well-drained rock garden pockets or tucked in along the path. They invariably suffer by comparison if planted near the larger ones. I regretfully remember the dozens of small, starry-eyed seedlings—scrubs I thought them then—that went onto the compost. Unappreciative of their charm and place in the garden at that time, only the giants with positive, bright colors were saved. Pale pastels, the muted and grayed half-tones, as Mary Brown Stewart describes them, had no personal appeal then. Really, each has its own particular charm and exquisite fragrance, The Auricula's fondness for elevated situation will add interest to the contour of rockery or border.
and when not subjected to competition with brighter-toned Primroses, their softly exquisite color-range of flower and foliage offers a unique opportunity for the careful garden planner. Auriculas are one of the easiest of Primulas to grow. Contrary to the belief of some, they will take more punishment from neglect, poor growing conditions generally, extreme frost and drought than any Primrose I know, and yet survive. In this immediate vicinity, we are afflicted with a freezing east wind bearing down from the Columbia River Gorge at which time plants may be encased in solid ice. We have snow, too, followed by long weeks of spring rain. Summers are often hot and dry, with little rain from June until September or October here in the Willamette Valley. Yet the Auriculas, with no winter protection thrive on the same amount of water given other perennials over these dry periods. Auriculas do have one 'miff', however: POOR DRAINAGE. They detest a sodden soil with stale water up to their necks, and if forced into this unhappy situation, will sulk, curl up and die by way of rot.

You who are becoming interested in Primulas and who hope to grow them successfully, even though you do not have partial shade or other satisfactory, natural conditions, should become informed of their particular needs and thus provide them. The same general culture applies to most of the common Primrose varieties. Auriculas prefer afternoon shade, although they will tolerate more sun than most others. Mr. Bacher of Swiss Floral Gardens visited his homeland three years ago and saw Auriculas growing in full sun on the Swiss Alps and observed particularly that those in partial shade of small shrubs or rocks seemed happier and grew more luxuriantly than those on the hot cliffs in full sunlight. Choose then, a situation of border, bed or rockery with these preferences in mind, raise the surface six or eight inches, at least, above the level for better drainage. Auriculas prefer a rich, loose soil. Spade deeply and dig in a generous amount of well-rotted barnyard manure. (The English prefer pure cow manure.) If the soil is on the heavy side, sand added makes for better drainage. Peat may be worked into a too-light earth for a good texture as well as moisture retention. Auriculas appreciate moisture, but will not tolerate a soggy mass about their necks and hard-pan at their feet. They seem to like lime, although a successful grower in British Columbia uses none, and I noticed very nice plants in soil that appeared to be half peat. If you wish to add lime in some form, poultry oyster shell is excellent for two reasons: the lime is available over a long period and it provides sharp drainage. And, too, if you wish to protect the foliage from splashing mud during rainy seasons and conserve the moisture during the dry, apply a top dressing of chipped rock, coarse sand or fine gravel.

In sections where Auriculas make a rapid growth, they, like most other Primulas, should be divided each year -- or at least every two years. The best time for dividing is immediately after the blooming and seeding period for the reason that new roots must form while the ground is still warm enough to permit of growth. The roots then have time to firmly establish themselves in the ground before winter and frost, a period during which there is little or no root growth on disturbed or divided plants. Keep newly-set out divisions moist to stimulate growth until fall rains. Otherwise, they will not be prepared for the strain of producing blooms the following spring. Root systems just do not form in a week or a month. Invariably the loss of newly divided stock, or of seedlings, is due to too-late plantings, and not to severe winter intolerance.

When dividing, save detached offshoots or take cuttings cleanly off side growth. Auriculas root very readily in sharp, clean sand. We use sand with a little peat added. Prune off about a third of the root length with a sharp knife, cut these into inch pieces and cover inch-deep in the sand and peat mixture, keeping on the dry side for two months in a greenhouse or cold frame. ' few will produce new plants to be potted up the following spring to grow on and give bloom the next season.
Fortunately, Auriculas are not infested with serious pests in the Northwest. Strawberry weevils do not seem to crave the tough fibrous roots; aphids and red spider do sometimes appear in the summer. Dust or spray takes care of them. A slug, small or cutworm lurking near is quickly and thoroughly taken care of with bait.

If your garden has never enjoyed the enchanting company of Garden Auriculas, by all means indulge in a few plants, or, indeed better, a packet of seeds. Anticipating the initial blossomings is the first symptom of Auricula Fever which, often, may be aggravated by tantalizing urges to follow the scent of some new prize.

Following are names of some very old and well-known Auricula Hybrids which can be had from growers in the United States and British Columbia:

- P. pubescens decorus — neat rosette of dentate leaves, topped by large heads of mealy-throated flowers of rich purple-blue color.
- P. pubescens Mrs. J. H. Wilson — another purple beauty.
- P. pubescens The General — small red flowers.
- P. pubescens Keenie and Kingscotte — both with larger flowers and clearer color than The General.
- P. pubescens Old Dusty Miller — red.
- P. pubescens Old Dusty Miller — pale yellow.
- P. pubescens Leather Coat forms — bright tan.
- P. pubescens Buff Double — fully double.
- P. pubescens Lavender — semi-double with two and three rows of petals.
- P. Marvin — cross between Venusta and Marginata — a beautiful, bright purple-violet.
- P. marginata var. Linda Pope — thought to be a cross between Marginata and Auricula. Sharp, deeply-toothed foliage, heavily covered and edged with silvery meal. The upright stem, also mealy, flaunts a rounded head of large, flat flowers of a fine lavender with circular white eye. High in price, but a good investment. A collector's piece, really.

Dividing Primroses is not a difficult feat and does your plants a great deal of good. If not divided, they soon deteriorate.

If a maximum number of new plants is desired, divide down to single crowns, but if you wish to have a good display in the spring following division, leave two or three crowns in each new plant.

The actual division is simple. Dig the plant to be divided; remove all soil from the roots; divide into one or more plants as desired; trim the roots to about two and a half to three inches and trim off all old leaves. Don't forget to keep divisions cool and moist before and after resetting, watering thoroughly. Occasionally you will have a plant with a tough, enlarged root resembling wood. Cut this root with a sharp knife into the desired sized new plants, eliminating as much of the old woody structure as possible.

Primroses can be successfully divided at any season of the year, even when in bloom, but there is a proper season for such work. In the opinion of this writer, the proper season for dividing Primroses is late summer, just prior to fall rains.

Primroses are decidedly cool weather plants. The hot summer months are their rest or dormant season, and their long roots down in the cool, damp earth should not be disturbed until the fall growing season is about to commence. By delaying division until this season little watering is necessary and the plants do not develop a large lush growth before the winter frosts. 'n excessive growth during summer and fall makes Primroses particularly subject to winter damage for they have been forced and weakened through insufficient rest.

Fall division of Primroses also helps to eliminate Strawberry Root Weevil from the new plants. Weevil eggs are laid in early summer and hatch in a few weeks. The larvae immediately travel down the Primrose roots.
and start feeding on them. By late summer, or early fall, even the latest larvae are hatched and feeding. Division at this time removes practically all larvae from the roots and the new plants are set with clean roots ready to start natural growth and bloom freely in the spring. The writer has, for several seasons, observed that fall divisions have been free from the Root Weevil, whereas, plants which were baited, but left in place, had some larvae in their roots.

To summarize, let me repeat the advantages of fall division:
1. Primroses stand the hot weather better with a full root system.
2. Dividing should be done at the end of the dormant (summer) season so the new plants have cool weather in which to become established.
3. Late division is a great help in eliminating Strawberry Root Weevil from Primroses.
4. Don’t overlook the human element. Who among us gardeners does not, some time or other, neglect the plants not in bloom? Few Primrose divisions require watering frequently during summer.

Editor's Note: There are two schools of thought on growing habits of Primroses and the relationship these habits bear to cultural practices. In order that our readers may take the best from both and adapt the result to the particular set of conditions under which they garden, the opposite side of the question -- the benefits of dividing in July after seeding with the summer as the growing season -- will be presented at a future date. Honest controversy is the spice in the pudding.

Those who garden in climates where Falls are wet and long, should periodically remove tree leaves from the crowns of all Primroses before they become soggy and matted.
ation at the end of the period. I think it would be of advantage to the commercial seedsmen to take more interest in this problem. Dr. Leonian, who grows a famous strain of delphinium, says that he no longer has complaints of poor germination from his customers since he has made a practice of keeping the seed refrigerated until delivered to the purchaser. I think refrigeration would help with Primrose seed.

The Auriculas are my favorite. I find it hard to get much seed from them by hand-pollination. The flower heads wilt before the seed set. Purchased seed does not germinate very well.

Everyone agrees that Primroses are hard to grow. Perhaps that is part of their charm.

FOR THOSE WHO HAVE NOT READ "WIND IN THE WILLOWS"

The meek little fieldmouse in his innocent quest for food in the winter time is an unwitting culprit, but nonetheless a culprit. He and his family and all his distant relatives "just love" the wintergreen flavor of Primroses and so follow the mole runs and feed on roots, crowns and on up to the last leaf. As time goes on, and heavier blankets of leaves or snow provide cover for their picnicking, they eat in reverse, beginning at the top and working down.

Exterminating the moles and keeping mole runs punched down should be the first step, but baiting with Red Squill or any rodent poison should be done in any case. Sound and simple strategy is to place the bait in the little round holes where once Primroses grew and here and there under the leaves of the plants close to the crown. For those gardeners who have read "Wind in the Willows" it will take almost a catastrophic loss to Harden the heart to this task.

HARDY PRIMROSES IN NORTHERN NEW JERSEY

T. A. Weston

I came to this country in 1920 with more than twenty years experience in growing Primroses in Kent, England, where P. vulgaris grows wild in every hedgerow. In spite of the warning of an old Englishman that I would never be able to grow Primroses here, I have been able to grow hundreds of Polyanthas, Denticulatas, Japonicas, Pulverulentas and others, this on shaded land that I purchased with proceeds of the sale of Viola Jersey Gem.

But Primrose growing is no cinch in New Jersey. I do recall one wet summer, but ordinarily the dry, hot spells play havoc with Primroses. The villains of the piece are mites and they don't mind being sprayed in the least. Then, too, there is root rot among the Polyanthas and the Japonicas literally melt away if they are not watered. Hearing in winter tears them out by the roots unless they are well mulched. Then one must either tread them down or replant every heaved plant, not so easy with 2,000 plants. Many I have never flowered. Those that flower in summer, like Florindae, are just about impossible where there is no natural water stream.

There is hardly a hardy Primrose-I have not attempted from seed and I think nothing of holding on to the seed pans four or five years because I know some Primroses take that long to germinate.

The gardeners of the Northwest may not realize that the way they grow Primroses is of little help to us Easterners. For example, I have never met one gardener who has honestly raised P. rosea from ordinary purchased seed. It cannot be done because the seed is no good if not sown within a few months of harvest. I know because I have been raising P. rosea for more than 15 years. At times I have had 500 plants; right now I have only one measly little plant.

I have had 500 Japonicas as strong as cabbages; right now I have but two or three dozen. For the past
two years I have not been able to germinate a seed. Primroses are interesting but tough. It took 18 years to find one spot in the garden where I could grow Auriculas, and I have to fight for them because cutworms gouge the leaves and the larvae of the vine weevil cut off the roots in summer.

TO CAPITALIZE OR NOT TO CAPITALIZE

Readers may wonder at the method of capitalizing the names of Primulas in the Quarterly. Correctly written, a specific Primula is only capitalized when it bears the name of an individual, i.e., P. Smithiana; in all other instances — even when bearing the name of a locality or a country — the specific name is written with a small letter.

Capitalizing the names of Primulas when unaccompanied by their family name, Primula, or its abbreviation, P., is simply an editorial invention to lift the name from the body of the text in order to make it stand out more clearly. The words Primrose and Primula are capitalized for the same reason.

OLD ENGLISH

Nodding in his garden on a summer's day midst the scent of gillyflowers, and lilies, and roses, Sir Jeremy Tuttlebury awoke at the announcement of a courier with a packet. "Confound the Leominster courier," saith I, for I were waked fro' a pleasant dream o' catching a big trout wi' every cast." He do call here o'er much. I fear me Mrs. Betty's cowslip wine be still a draw." . . . . .From Sir Jeremy's diary about the year 1726

Success with Primulas, as with any group of plants, is only attained by adopting cultural practices to one's particular conditions. 'Created a plant is hardy, it should be possible to make it comfortable providing one is willing to give it suitable care and environment. I am still experimenting with different cultural methods notwithstanding the many species I have growing in various degrees of contentment.

Perhaps the simplest way to outline these species is to list them according to their sections. The section Cortusoides contains some of the easiest species. Cortusoides itself is perhaps the most easily grown Primula outside the Vernales section. It seeds itself all over my garden and each plant soon forms a large clump which, when divided, gives many plants. It will grow almost anywhere, except in the most parched and sun-scorched locations, and is not exacting as to soil. It does better with sun for at least half the day, although it will grow in a shady woodland. It flowers very early in the spring and again in the late summer and fall. In all, it is one of the most satisfactory Primulas one can grow. A little careful selection provides one with plants producing flowers of good substance and color.

Sieboldii is a little less easy but seeds freely — watch the seed pods, they ripen while the pod is still green, open and drop their seed almost before you are aware of it — and multiplies by means of creeping rootstocks. It may die down in late summer, remaining dormant until next spring. It can endure much more shade than Cortusoides and still thrive. The flowers are larger and vary in color from white to red. For best results it needs a soil with plenty of humus. Some say it is very close to Cortusoides but the seeds and seed pods are much different.

Primulas lichiangensis and Veitchii are very similar. They grow more slowly than Cortusoides and Sie-
boldii, taking two years to reach maturity. Both divide easily and produce seeds most freely. They like a sandy, humus-filled soil and require about the same amount of sun as Cortusoides. However, they must have more moisture than the other two to flower well. When in bloom they are a beautiful sight and repay in full the extra care they need. All of the Primulas mentioned above are very hardy, requiring no winter protection here in Western Ontario, although we have temperatures of twenty-five below, and long, wet falls.

The foregoing easily grown Primulas belong to one of the two sub-sections that split the section Cortusoides in half — sub-section Eu-cortusoides. The Primulas of the other sub-section, Geranioides, are more difficult. Kisoana I have had for several years. It grows very slowly, producing new plants by creeping root-stocks like those of Sieboldii. I find it needs treatment similar to that given Lichiangensis. Primulas heucherifolia and geraniifolia are due to flower for me next spring. I give those of this sub-section some winter protection.

I have only P. Reinii in the section Reinii. It is thriving in sandy humus in woodland exposure.

Section Obconica is represented by P. werringtonensis in the seedling stage.

The section Vernales contains the commonest of the Primulas — the Primrose, Polyanthus, Cowslip and Oxlip. These are so well known and so easy to grow that I will only give the species I have in cultivation. I might add that they receive no winter protection or special care. I have Juliae and hybrids, Acaulis, Heterochroma, Amoena, Elatior, Carpathica, Fallsae, Veris, Canescens, Columnae and Macrocalyx.

When we come to the section Petioloae we encounter some really difficult Primulas. Yet they are so beautiful that they are worth the extra care required. P. Winteri is the best known and is doing well, protected from too much rain and with fast drainage — growing in a moraine mixture. I also have a very few P. bhutonica in the seedling stage.

Of the section Bullatae, I have but P. Forestii.

It has survived one winter and I am hoping for the best. It, too, is in a moraine-mixture, in woodland and really thriving there.

The section Farinosae is one of the largest and most widely distributed of all. Primulas farinosa, scoticas, longiflora, frondosa and darialica are all somewhat alike both in foliage and flower. I give them the same treatment as I do Sieboldii. Frondosa and Darialica are by far the most robust, multiplying very rapidly and any piece will root if just stuck into the ground. The others require more cautious treatment and increase but slowly. All are quite winter hardy. P. luteola, though belonging to the same section, is much larger than most of the commoner Farinosae. It is very robust and hardy. Each plant soon forms a large clump which may readily be divided. It is one of the easiest to establish and seeds freely. As regards culture, it seems to thrive under the same conditions as Japonica.

Rosea is one of the earliest Primulas to bloom. It seeds freely and is quite hardy...Woodland conditions and plenty of moisture, humic soil, are its only requirements.

The two subspecies of P. gemmifera, Chrysopa and Conspera, are odd looking little plants. In leaf they are somewhat similar, but quite different in flower. They want the same soil and situation as Farinosa; both need plenty of room in which to grow — no crowding by lustier neighbors.

P. siberica resembles in habit the Gemmifera but is still more slow growing. Both Siberica and Involucrata, as well as the subspecies Wardii, or yargongensis as it is sometimes listed, are similar in appearance. They also want Farinosa culture.

P. denticulata, section Denticulata and variety Cashmeriana, are very easy to grow. I have them in deep woodland shade, in half shade and in full sun. They even survived sun-baked situations. Seedlings spring up all over the garden. I have some very fine shades of the pink and red as well as the commoner white and violet. Given a little care and massed in groups, they
provide a wonderful effect in early spring.

The section Capitata is said to be close to Dent-
ciculata but in appearance the plants are quite differ-
ent. Capitata itself is said to be a biennial, but I
have four-year-old plants which are still thriving.
It flowers equally well for me in sun for half or more
of the day and also in a shady woodland. I give it an
almost moraine mixture — that may account for its
long life. It is doubtful whether it could stand much
yet in winter so a pane of glass is placed over it in
late fall.

I have also the subspecies of P. capitata, Laec-
tec-capitata, Sphaerocephala and Mooreana.

The section Muscarioides with its spiked inflor-
escence is quite unique among Primulas. Littoniana,
the commonest, seems to prefer more sun than most —
at least the morning sun — and a humic, gritty soil.
It is quite hardy but very slow-growing; my plants
did not bloom until the fourth year. One must be
careful not to destroy it during early work on the
Primula bed as it is one of the last to show up in
the spring.

P. Giraldiana, also of this section, is still
in the seeding stage with me but seems more vigor-
ous than Littoniana.

The only member of the section Soldanelloidea
which I have is P. nutans. It, too, is very slow
to make its appearance in the spring. I thought I
had lost my seedlings last year until in the late
spring they began to pop up everywhere.

The section Nivales has been recently revised
and the American P. Perryi has been lifted from
this group to head a new section. I have one Per-
ryi and it thrives in the woodland in a gritty soil.
P. melanops, a Nivalid, is still of seeding
age, but I have a large number of them all thriving
wonderfully. Chionantha is said to be the easiest
of its section and, while my plants are still quite
small, they are giving promise.

With the section Sikkimensis we come to an eas-
ier group. Sikkimensis itself seems to require much
grittier soil than the other members of the section —
least that has been my experience. P. microdonta
alpica and its white form are exceedingly beautiful.
They require more sun than the rest of the section, but
otherwise seem to need the same culture. I find the
Microdonta — alpica and violacea — the easiest of
the section apart from Florindeae.

Florindeae is an exceedingly easy plant to grow —
its only requirement being plenty of moisture — and it
is as hardy as a rock.

I have also Pudibunda, Waltonii, Secundiflora and
Vittata. These are all slow-growing but seem very
steadfast.

Coming to the Candelabras I feel that this sec-
tion is so well known that I can be quite brief. Jap-
onica, the easiest of the lot and the hardiest, can
stand more sun and more shade than the others as well
as more drought. The rest of the Candelabras in my gar-
den — Ailsadora, Aurantha, Beesiana, Bulleyana, Bur-
manica, Chungenais, Cockburniana, Helodoxa, Poisconii,
Pulverulenta, Smithiana and Wilsonii, along with various
hybrids — all get the same treatment from me, sun ab-
out half the day, good drainage and a sandy, humic soil.
I like to put a collar of coarse sand or fine gravel
about their crowns as all seem to suffer at times from
crown rot, although no Primula is immune.

That is, no Primula in my experience is exempt
from this malady with the exception of the section
Auricula. I have never lost a Primula of the Auricula
section from crown rot, but that may be due to the
fact that I grow all members of this section in a mi-
ture of about seven parts of three-eighths crushed
stone to one each of sand, peat and rich soil. I
grow the Show Auriculas in pots in cold-frames. Here,
in the conventional Auricula soil mix and in four-
inch pots, the roots seem scarcely to fill more than
a fraction of the pot. But in the above — what I call
'moraine' mixture — the roots extend several feet. I
believe there are some who doubt the possibility of
growing Auriculas to perfection in the East. I can
show them two beds of the most thriving plants, Auric-
and Marginitas mixed, one in a woodland where they get the sun off and on throughout the day — a few hours at most — and the other where they get the early morning sun and on until noon. Show Auriculas I keep in the cold-frame the entire year where they bloom beautifully every spring and a few again in the fall. The Border Auriculas, by the way, get only a pane of glass or a large-piece of tin in the late fall and through the winter by way of protection.

Of the other members of the section I cannot give much information. Except for Marginitas, they are all young plants, many of them just seedlings and healthy ones at that. These are Carniolica, Viscosa, Hirsuta, Hirsuta nivea, Glaucescens, Spectabilis, Wulfeniana, Clusiana, Tyroliensis and Allionii.

This concludes the enumeration of the species I have in cultivation. Should any reader have seed or plants of other species or varieties, I pray they give me the opportunity to buy, borrow or beg them.

I have mentioned soil mixtures. I stick to three main types; first, for the easy species, a nice sandy loam with plenty of old manure; next, for the more particular, a good loam like the first with about a third peat and a third sand and three-eighths stone mixed; last, the above mentioned moraine mixture. I am not too particular about the proportions, but that is a close approximation.

As to exposure, I grow some in the woodland with shade cast by distant trees and others in a position where they get from half to all the morning sun.

Most Primulas have sensitive crowns and overhead watering must be done with care. Those of the Vernal- es section do not mind this but with others it is better that they till then get wet crowns in hot summer weather. I have been putting in underground watering systems beneath all my beds but it is too early to report on my success with this method. I have had Primulas thrive growing over springs but the many forms of animal life gave so much trouble that I had to move them all away to safer locations.

The subject of slugs, bugs and rot would require an article in itself. I believe, however, that most failures to grow Primulas in the East have been due to these enemies of the Primula tribe, and not to the climate as some would have it. Anyone who has grown vegetables on any considerable scale, or fruit, knows the constant warfare that must be carried on against the host of enemies both seen and unseen. Primulas, too, have their foes.

Propagation of Primulas is a difficulty which I just have begun to surmount. Our hot summers make this unusually hard. I believe I have the solution but that would rate another article.

In conclusion I would like to thank the many Prima- mula enthusiasts who have made my success what it is, and in particular Mr. Clarence Elliott of Stevenage, Sir Wm. Wright-Smith of Edinburgh, Barr and Sons of London, Mr. A.R. Buckley of Ottawa, and Mr. J.C. Taylor of Guelph.

Editor's Note: Since the above article is intended only as a report of the Primulas growing in his garden in Eastern Canada, Mr. Beattie will be pleased to give detailed descriptions of plants and further cultural information to anyone interested. It is obvious that this can be done not only more easily through the Quarterly, but also to the greater pleasure and benefit of all the readers.

Broaching the interesting subject of the sections into which the outsized Primula family is grouped for reasons of convenience and clarification, calls for an expansion of the topic in a future issue.

"Oh, dear me, there is only one infallible rule, I believe, in the culture of difficult plants; put them elaborately, with full precautions, in a corner carefully thought-out to suit their requirements — and they'll certainly die; plant them where, by all laws of their being, it is physically impossible for them to survive — and they'll probably go ahead like duckweed in a pond."

Reginald Farrer
In the course of the last year, one constant question was asked in meetings of the American Primrose Society, "What books are there dealing with the Primula, its species, hybrids and culture?" A search of the Portland Public Library revealed only two on the subject. So, early in the year, Pres. E. S. Bradford appointed Mrs. L. W. House chairman of a committee to investigate and report to the Society on books published dealing exclusively with Primroses. After a lengthy correspondence with publishers in America and England, she reported that there were only two books on the subject available, "Primulas for Garden and Greenhouse" by E. H. K. Cox and G. C. Taylor, and "Primulas of Europe by John McLean.

Thereupon, a motion was made and carried that a library for use of members should be started, and money was voted for the purchase of these books. Shortly afterward, Mrs. Minnie Easton of Roseburg, Oregon, donated a copy of Henry Correvon's "Rock Gardens and Alpine Plants" to the Society.

"Primulas for Garden and Greenhouse" published by Dulau and Co., Ltd., London, in 1928 and reprinted in 1938, is replete with information on the Primula family, and should furnish information on any problem that might confront a beginner. It consists of seven chapters on propagation, cultivation, varieties and species of the Primula family. It is beautifully illustrated in black and white with about eighteen plates, many of them of the less common types.

In the chapter on propagation, various methods of raising the different species are shown, particular emphasis being given to the then newer methods of seed sowing. Spring sowing and fall sowing is discussed, the latter method being recommended. In the same chapter attention is given to method and time of division of plants, July and August being recommended as the best time for this.

Chapter three is devoted to cultivation, cultural requirements being sub-divided under three headings: - Soil-Moisture-Light Supply. As Primulas come from many parts of the world and thrive under such different conditions - from sunny slopes and rocky ledges through many stages of light and shade and moisture to the most shady, moist woodland - it can readily be seen that soil, moisture and light are cultural requirements of the first order. While the authors deal with requirements under the conditions of the English climate, most of their advice is applicable here. Advice and emphasis on drainage should be followed. Questions of light and shade, use of peat moss, lime, etc. are discussed also.

In chapter four is traced the origin and development of the Primrose and the colored forms of the Polyanthus. As the authors unfold the story, one's thoughts go back to Shakespeare who has one of the fairies in "A Midsummer-Night's Dream" say to Puck:

"The cowslips tell her pensioners be:
In their gold coats spots you see;
Those be rubies, fairy favours,
In those freckles live their savours:
I must go seek some dewdrops here
And hang a pearl in every cowslip's ear."

And back to Wordsworth who in "Peter Bell" speaks of "A Primrose by the river's brim". And, as he says, "It is to that Primrose that grew in the gardens of long ago, mixed with the heavenly blue of the Bluebells making a picture of exquisite color - one that made the poet sing 'Oh to be in England now that April's there!'".

Messrs. Cox and Taylor trace the development of the modern Polyanthus and Primroses down to the time of their writing the book, giving Miss Gertrude Jekyll's account of the origin of her "Funstead Bunch Primroses".
a strain of magnificent yellow and white Polyanthus—a work carried on for fifty years.

He pays glowing tribute to Mr. G. F. Wilson who gardened at Wisley, England, and who, with infinite patience and perseverance, originated one of the first Primroses that could be called blue.

Chapter five is given over to "Primulas Under Glass". The species listed as particularly suitable for culture under glass include P. sinensis and its variety stellata, obconica, sinolister, verticillata, kewensis, malacoides, effusa, Veitchii, cortusoides and Forbesii. They believe that of them all, the starry form of P. sinensis is the most decorative greenhouse plant, while P. obconica is spoken of highly, the fact is brought out that this particular greenhouse Primula is the one which causes skin irritation when handled—which some of us know to our sorrow. They speak of P. malacoides, introduced from Yunnnan, China, by Forrest in 1908, as being one of the finest species to come to us from the East, and a very decorative variety in the greenhouse. In this vicinity, however, it can be treated as a half-hardy variety and, if protected in very cold weather, will winter over. A valuable feature of this chapter is found in the fact that varieties that like a cool, unheated house are mentioned. They also suggest as a hobby, the building of rock gardens within glass houses and illustrate with the variety of P. marginata known as Linda Pope. That Linda thrives out-of-doors was demonstrated by a member of the Society in the Spring Show.

Chapter six has European Primulas for its subject. And right here one runs into one of the puzzles of the Primula family, namely nomenclature. A certain Primula may appear in several catalogs under different names and the amateur may find that, instead of some new thriller, he already has this variety under another name. But returning to the subject, the majority of European species of the Primula are considered rock garden plants and succeed best when grown in the moraine. The chapter is divided into three parts in which are descriptions of the Primulas belonging to the Auricula, Farinosae and Vernales sections. And the chapter is like a travel guide of Europe before the war. Every section of Europe, from the Carpathians to the Pyrenees, from Bulgaria to Spain, has contributed its quota to the Auricula section of the family.

In the Farinosae section he mentions P. farinosa, the Bird's Eye Primrose, as the one best known, varying forms being found throughout the British Isles, Europe, America and Asia. Sun and abundant moisture during the growing season are necessities and it is said to do its best in the company of other small plants.

The Vernales section lists some of the species of Primroses and Cowslips native to England, Europe and Asia Minor.

Extra-European Primulas is the subject of the seventh and last chapter of the book. This is a fascinating chapter if only for the names of the places from whence the species came and names of the explorers who brought them to us. There is P. chrysopa introduced by Kingdon Ward from Yunnnan; P. conspersa brought in by Purdom from western Kansu; P. involucrata brought in by Wilson from Chinese Tibet. Reading this chapter, one can easily see why so many species are called "Asiatics".

It is divided into thirteen sub-divisions, and it is certainly intended for the gardener who wishes to acquaint himself with the more exotic varieties. For those who want to start on this adventure—and who doesn't?—the authors recommend the Denticula section. In this are some of the old favourites of cottage gardens, and they will grow in every nook and cranny. Any soil suits them and they are not particular as to situation. Many beautiful illustrations accompany this chapter. Our only regret—they are in black and white, not in color. Some day perhaps the authors may be persuaded to issue a new edition—in color—with an additional chapter on P. Juliae and its hybrids.
DEATH TO THE DEEVILS!

For killing the larvae, or grubs, of the Strawberry and Black Vine Beetle while in the ground feeding on the roots of plants, Primrose or otherwise, the two methods that follow have been used by those who contributed them with success and with no injury to the plants. Whenever a plant's leaves look very withering and stunted, chances are that it must be lifted and hospitalized in peat and sand to grow new roots, but otherwise an application of one or the other of these recipes will suffice.

One is from Mrs. Hallie Schuster, 1538 Cascade Ave., Chehalis, Washington, and is effective against wire worms as well as weevils. She uses one-half teaspoon Corrosive Sublimate Crystals to one gallon of water and gives about one cupful around each plant. Hold the leaves up and pour as closely around the plant as possible without touching. A reminder to mix this solution in vessels other than metal might save someone's sprinkling can or bucket. Weaker solutions than the half-teaspoonful have been used successfully by other gardeners.

Another method of extermination is used by Mr. Michaud of Alpenglow Gardens, New Westminster, B.C. He buys a product called Rotox which is the same as Rotenone 4% Derris Root and the rest inert material. His recipe is mixed in large proportions, but can be easily reduced. To thirty gallons of water he uses one pound of Rotox and one and one-half pounds of soft soap. Dissolve the soap in a sufficient amount of tepid water, add the Rotox powder and then the remaining amount of water.

Mr. Michaud dips the roots of all plants in this solution before planting, and during the growing season, a cupful of this mixture is poured in the crown of the plants, the first application being made about the 10th of April (for the West Coast, later for the East) and the second about June 25th. The Derris Root, being insoluble, lasts a few months. When using the mixture, it should be stirred from time to time, otherwise the powder settles at the bottom of the container.

Summer sowing of fresh seed means fall planting of seedlings. This cannot be done with any degree of safety after September inasmuch as the growing season is apt to shut down at any time leaving the small roots just below the soil surface to break with every frost. Unless the seedlings are far advanced, leave them in the seed pan to winter over, placing some light protection over them in snowless freeze-ups. If they are large, and the container very crowded, prick them out into flats and give them enough protection to break the sharpest blasts. In transplanting, disturb the contents of the seed pan as little as possible, for there will be a great many seeds left that will germinate in the spring if a pane of glass is placed over the container and left out in an unprotected place to freeze.

Late fall is an ideal time to sow all types of Primula seed and especially 'uricalas and 'saitas. Most of the 'saitas and, of course, 'uricalas are alpine plants used to wintering-over ungerminated seed under snow and ice. After the seeding process is finished, a pane of glass should be placed over the seed pan or flat to exclude beating rains. Allow the pans to remain outside where they will get the full benefit of frost.
Lou Roberts was one of the first in the Northwest to fall under the spell of Primroses, and after growing Asitics, European alpines and the English types has chosen to hobby professionally in Auriculas, Juliae hybrids -- originating some particularly fine ones, and blue Primroses. Address: Milwaukie, Oregon.

Alfred E. Brooke's Primroses are well-known for their beauty and every show adds to his collection of ribbons. He is not only an enthusiastic member of the Primrose Society, but has done much for popularizing Primroses in the Portland Branch of the Men's Garden Club of America. Address: 3538 S. W. Hume Street, Portland, Oregon.

Mrs. Ernest L. Scott: At the same time that Primrose enthusiasm was congealing into an organized horticultural group on the West Coast, an article by Mrs. Scott appeared in a national magazine in which she told of her Primroses and her enthusiasm for them, ending with a plea that such an organization be founded. Simultaneously, the East and the West joined hands over their Primrose beds. She gardens at 64 South Street, Bogota, New Jersey.

T. A. Weston is the author of "One-Man's Garden", the editor of Florists' Exchange, a horticultural enthusiast par excellence and one of the important figures in the New York section of the gardening world. Address: 97 Lurge Ave., Hillsdale, New Jersey.

Frank F. Beattie: Primulas and books absorb large amounts of Mr. Beattie's interest. Fellow of the Royal Horticultural Society, graduate of Queen's University, his communications with famous European botanists and plant hunters all contribute to his being one of the keenest amateurs anywhere. Address: 380 Charlton Ave., West Hamilton, Ontario, Canada.

Robert W. Ewell is one of those Primrose lovers who has gathered his favorite flowers in the woods and meadows of his native England. His loyalty to them makes him one of the most eager members of the Society to further primrose appreciation in this country. Address: 3275 S. B. Isberry St., Portland, Oregon.

FROM 'L'SK COOKS

Corcova, Alaska

July 20, 1943

Dear Adam: Greetings from Alaska! Think it's about time to report on my Primroses. Both lavender and the white Cashmerianas do grand. All of the Polyanthusa grow very large. Tanda, Juliae and her other hybrids love it here and I have some Cowichan that's made a lovely showing in my rockery. People climb our hill to see it. It was a very bad winter and I wasn't there to baby them although my husband obeyed instructions and put evergreens over them.

Auriculas do fine, make a grand growth and I'm going in for more of them. I have hundreds of assorted seedlings just at the transplanting stage. I'll keep them in cold frames this winter and thrill of thrills! After two years, a box of magsenta Japonicas germinated. They should do well here.

We have to make every bit of soil and the rain washes it out so fast. I'm solving the problem with rockeries -- and have access to a lovely cow manure pile, some that's fifteen year old. We haul little boxes full up the hill to build up what gravel we have here.

Very sincerely,

Mrs. Fred T. Craft
Cordova, Alaska
The opening question bids fair to stump the experts. A member asks, "Can you tell me anything I can use to preserve Primrose flowers to use in corsages? There is some sort of chemical used in Seattle for this purpose, but is probably a trade secret."

F. C.

Anyone who knows of such a formula and is willing to divulge its nature is urged to forward it to the Corresponding Secretary.

There are a number of questions that are asked again and again. To give full and satisfying reply would mean an article for each. Eventually, longer pieces on these topics will appear, but in the meantime, a rough outline might help. Two of these questions are: "What is meant by 'Pin' and 'Thrum'?"); and "Are there male and female flowers?"

Every primula blossom is both male and female and the two different arrangements of the reproductive organs give rise to the terms Pin and Thrum. In the form known as Thrum-eyed, the anthers, or pollen-bearing organs, are seen at the surface of the bloom closing the throat of the flower. The female stigma is below the anthers. When the pollen falls on the stigma, or is placed there artificially, it is termed "self-pollinizing.

Pin-eyed is the reverse of Thrum-eyed. In this form the anthers are fastened to the sides of the throat below the stigma which projects itself, by means of a longer style, beyond the opening of the throat and above the surface of the blossom.

In nature, it is usually the Pin-eyed blooms that receive the pollen of the Thrum-eyed. In hand-pollinating, two Pin-eyes, or two Thrum-eyes can be crossed as readily as the Pin with the Thrum. The term 'male' and 'female' plant is apt to be confusing inasmuch as a plant can be either mother or father, or both. But the word 'female' is generally applied to the plant which bears the seed and 'male' to the one which was used to furnish the pollen and not allowed to seed.

These words, besides being a term used by hybridists, is also a Show-table phrase, the Thrum-eyed type of bloom being generally preferred. The two forms of blossoms, Pin and Thrum, occur as frequently within species as within hybrids. The botanical term is 'Dimorphism' -- presenting two forms.

Another question is "What is the difference in the words 'Primrose' and 'Primula'; or 'When is a Primrose a Primrose and when is a Primrose a Primula?" The disentanglement of Primula nomenclature could monopolize all the space in several Quarterlies, but unraveling one knot at a time will eventually straighten the skein made intricate over hundreds of years. 'Primula' is the correct word. It names the genus, or family, to which this group of plants belongs.

'Primrose' is an affectionate nickname which had its beginnings before the 16th century in the word Primerole, an Anglicized abbreviation of an Italian phrase meaning the first spring flower. 'Primula', too, has its origin in the early blooming habit of the plants which were recognized as such in those early times. It is from the Latin 'Primus', 'prime' or 'first'.

In America, all Primulas are commonly called Primroses, but to an Englishman, the only Primula
allowed the name 'Primrose' is *P. vulgaris*, the 'common' *Primula*, whose yellow stars speed winter on its way and forecast the spring.

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**LETTER FROM WYOMING**

Rawlins, Wyoming  
May 27, 1943

Dear Madam: In regards to the Primroses, I wish to say that they are doing fine and are in bloom now. I have them in a rock garden which is well drained and gets sun up until about noon. I water my plants about every other day as this climate is very dry and windy in the summer. We generally get our killing frost about the 20th of September and not much snow until December. What I used for winter protection was corn stalks and leaves and the plants were green when I uncovered them this spring. I let the ground freeze before I put the winter protection on them and in that way they do not thaw and heave.

I have had quite a number of people come to see the Primroses. I guess I am the only one here who has them and everyone marvels at the beauty of the plants. We have had several frosts and snow since I uncovered my plants and they have stood the cold without even a frost bite. Sincerely, H. T. Keeler  
710 West Spruce St., Rawlins, Wyoming

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A post-card received from Mr. Keeler dated June 22nd stated that his Primroses (Polyanthus) were still in bloom and doing very well.

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If this list is incomplete, as it must be, kindly advise the Editor.