Let each cultivator release nine of his Primulas out of ten from their gloomy death-beds, and plant them in loose and sandy turfy mould, full of lime-chips, with very well-rotted old manure, in full sun and with abundance of water (perfectly drained away), perpetually perculating beneath their feet in summer. Then there will be no more word of difficulty or shy-flower or sad habit, not even in the hottest, driest countries; while in the cooler North they will be seen, as seen they may be here, growing and waxing like cabbages, planted in rows in kitchen-garden soil, where they flower each spring in a blaze of splendour, and usually again in autumn.

—from *The English Rock-Garden* by Reginald Farrer—London, 1919

Cecil Monson says . . .

Time to call a Garryarde a Garryard

The garryard polyanthus was known in Ireland—and possibly elsewhere—before *P. juliae* or altaica (now known as *P. vulgaris* ssp sibthorpii) arrived in these shores about 1900 from the Caucasian regions. And ever since then people have been writing just whatever occurred to them about this splendid plant to such an extent that the family name is mispelt and the special name of the original is forgotten—or almost. Let us try to elucidate.

**Back to the beginning**

A certain Mr. Whiteside Dane lived in the end of the last century at a place outside Naas in the County of Kildare, called Garryard. Please note no "e." He was neither botanist nor horticultural-hybridist but a surveyor in government employ. Somehow he produced a most beautiful plant which he called Garryard Appleblossom. One can only presume it was a natural mutation or sport.

**A wild thing**

It had splendid bronze leaves exactly like those of a wild primrose in shape and texture. The plant also behaved in all respects like a wild thing—it grew and increased and multiplied. Over these lovely leaves was carried a huge head of splendid pink and white flowers. Garryard var. Victory—probably created by Miss Winnifred Wynne, an early hybridizer of Garryards who used Appleblossom.

Durable, sturdy, reliable Garryard Guinevere does well in the Pacific Northwest and just as well on the eastern seaboard. Guinevere is probably the closest to the original Appleblossom as any of the Garryards. It features dark foliage (not julie-type) and very pale pink blossoms.
Seedling Garryard, the work of Cy Happy. Guinevere is the parent plant. The seedling is the same color—just a shade deeper—and features the distinctive bronze foliage. This plant blooms earlier than Guinevere.

blossoms exactly like a cluster of appleblossom. This was carried on a strong, sturdy, red, almost hairy stem about five inches long.

Grandmother's garden

When my grandmother moved house about 1898, she filled most of her orchard with these lovely plants that had come direct from the originator. She had them all her life, and I had them—as well as many others—until 1939.

I can almost certainly say that that was the one and only true Garryard. If Mr. Dane had raised any others they would have been in my grandmother’s garden, or mentioned in her diary.

Guinevere etc.

Somewhere about 1935 I saw for the first time Garryard Guinevere shown in Dublin by the late Mrs. Page-Croft. She did not raise this herself; perhaps she told me it came from Mrs. Johnston of Kinlough, but I cannot be certain. About this time too, Miss W. F. Wynne of Avoca came up with Tawny Port and Julius Caesar.

All these plants clearly showed the influence of P. altaica. The first two are polyanthus, but Julius Caesar is acaulis.

Surprise! More ‘Garryards’

When I came back from England after the last war there were many “Garryard” primroses about. They all had bronze foliage and showed clearly either or both juliae and altaica in their make-up and were mostly acaulis in form.

Few of them won my heart although I grow them all. Among them are Crimson, Gail, Victory, Lopen Red, Wisley Red (the very best) Sir Galahad. I only know the origin of one or two, but all were given the Garryarde patronmic.

It was not until I found Canterbury and Enchantress—raised by Mr. Champernowne at Buckland—that I saw anything like the now lost Appleblossom. Here was the authentic leaf and style of growth.

Meanwhile—being an indefatigable hybridist—I had kept the original seeds going interbred without any additional factors being introduced in the old Mendelian way for more than I could count with delight. I had never in all the years produced anything at all like the original Appleblossom, although there were many really good plants.

Worth waiting for

Suddenly, last year came two that stood out almost from their first leaves—strong bronze primrose leaves and stout red stems held up bosses of huge flowers with strength and dignity. One is a deep cream and the other nearly appleblossom—not quite, but a pink touched here and there especially at the edges with a deeper pink. Both worth waiting for so long!

Now I may sum up this rigamarole saying that there was the one and only Appleblossom. This was followed by Garryard Canterbury and Enchantress and now my own two un-named as yet. And these alone are entitled to be called Garryards.

Call them Bronzys?

All the rest should be either julianas or altaicas according to whether they have the wiry stems and cordate leaves of the first or the mat forming rooty habits of the latter. Unless of course, we start a new family of Bronzy’s? Or Something?

Finally, the true Garryard—it is very mean with its production of seed.
You're reading a list of primula species of the vernales section—and there it is.

A mystery plant. Primula legionensis.

It's listed without comment.

**Where's plant Sherlock?**

In "The Genus Primula" Smith and Fletcher wrote, "The type material in the herbarium of the British Museum is certainly meagre, but presents a facies alien to typical P. veris."

Wilmott offered the first clue in 1929.

"A single specimen collected in fruit near Riano has peculiar leaves with cordate-ovate laminae about as long as the narrow almost unwinged petiole," he wrote. "They are quite unlike those of any specimen of Primula veris or P. elatior I have ever seen, and resembling in a general way the summer leaves of an acaulescent Viola."

**Aberrant or new?**

Wilmott added, "Except at the apex they are only very slightly tomentose below, so it cannot be identified with P. suaveolens. The capsule is included in the inflated calyx, so it is either an aberrant form of P. veris or a new species."

All very interesting, but what can be done about seeing the plant?

**British museum helps**

I wrote to Miss Janet Marsden at British Museum (Natural History), Cromwell Road, London SW7 5BD (department of botany). I requested a Xerox copy of the dried plant material.

In a few days back came the copies and a little more information.

The collector was A. J. Willmott of Merton Park, Surrey, and a Mr. Lacaita. The collecting was done July 7, 1927, in the gorge of Rio (river) Esla near the town of Riano, province of Leon, in northern Spain.

**Specimen yields seed**

The men found only one specimen. Since the seed was ripe, Wilmott collected it and grew it in his garden. From the resulting plants, blooming specimens were added to the dried herbarium material.

Miss Marsden mentioned two further references:


**Spanish hybrids**

It would seem the Spanish have hybrids of P. legionensis with other vernales.

Let’s collect and return to cultivation this elusive plant.

All we need to do is find out what part of the Esla gorge Wilmott referred to as "locality 6." Then we can check with the natural history section of Biological Society of Spain for further information.

Hey, what’re we waiting for? Where can we get tickets for Riano?
Spring Color Feast

By Dr. Ralph Benedict

We are fortunate that we have so many types and strains of the acaulis primroses.

Today’s acaulis came from the original wild yellow vulgaris and its subspecies sibthorpii in white, shades of purple, red and pink. They were crossed and selected—and in at least one case—treated with a drug to cause mutations—until after all the years we have many beautiful strains.

Among these are the American strains, the best known the Barnhaven strain with its many shades, large flowers and long stems.

Europeans grew nosegays

In Europe many strains were developed for bedding and potting. Germany had the Beidermeier (nosegay); France had the Parisian; Switzerland, the “church window” and Ireland and England, Suttons, Deans and many others. Each strain was grown and produced for a particular climate or use.

The American strains are beautiful planted out among wild flowers and ferns or in the rock gardens. They have a wide range of colors and are especially fine in the pastels and pinks. The flowers are large with long stems. The numerous flowers are distributed among the leaves. We now have the flowers in doubles, jack-in-the-green, hose-in-hose and double-duplicate hose-in-hose.

Clear, vivid colors

In contrast, in Europe growers developed plants with clear, vivid colors in red, blue, yellow and pure white, with very few intermediate shades. These plants had most of the flowers in the center, sometimes with 70 to 80 flowers a plant.

The flowers had short stems. The leaves were flat and arranged around the outside of flowers like an old-fashioned nosegay—hence the name. These plants also were developed to bloom at the same time.

When these plants were introduced in 1960 to 1964, we had an article in the "Quarterly" in which a grower protested that these plants were too artificial. They did not, he said, fit into woodland planting with the other simple wildflowers. He suggested we should not go any further with this type of breeding.

However, to me they fill a special need.

Color — at last

In the East and Midwest the solid, vivid sheet of color produced by a bed of the “nosegay” or premier strain of acaulis is hard to beat after five months of winter in which we have seen very little color—just grey skies, white snow and a few colored twigs on the bushes and trees.

I get more comments and praise from these early blooms that from any flowers later in the season. Everyone seems hungry for color at this early season.

Enjoy window view

For the bed choose a spot along a walk and near a window, where you can see the flowers from the inside on a bad weather day. Often you will see them covered with frost or light snow.

You can make the bed any shape or size. If the bed is too deep to work from the edges, place stepping stones in the bed before planting. I set mine about 30 inches apart.

Stones may be flat rocks, broken cement or patio blocks. I do not like wood. When the weather is wet, they're too slippery.

Mark stones for winter

In the fall I place a stake about a foot high on the right side of each stepping stone so I know where to step after the leaves fall and mulch is placed.

I transplant the acaulis eight inches apart; their leaves form an evergreen mulch that shades the ground in the summer. During the winter and early spring the leaves prevent the ground from thawing and heaving.

No crown rot here

In the Midwest I do not seem to have crown rot from heavy foliage on the vernales, denticulatas or candelabras. The early freezes shrivel the leaves on the latter two, and the cold fall and winter climate prevent the rot. On the West Coast leaves often have to be clipped to prevent this because of the wet warm weather in the fall and winter.

In the bed I use a mixture of the four colors—blue, red, yellow and white. I pick the sharpest, clearest colors.

Planted a decade ago

I grew my original plants from seed about 10 years ago. The first year I removed all off-color types and all the late and uneven bloomers. Each year I have divided the best plants of each color. I have not grown any new seedlings.

These plants are hardy and long lived. I use plenty of humus in the soil and fertilize spring and fall. All primroses are covered with a light mulch of red or black oak leaves late in the fall.

If you live in the Midwest and follow the above, I think you will—as I do—enjoy the pleasure of this color feast each spring.

Dr. Ralph Benedict, lives at No. 14 Alpine Court-Wilton Lake, Hillsdale, Michigan. He suggests that readers consult the "Quarterly," winter of 1964, to see the cover picture of the "Premiere." The same issue includes an illustrated article by Elmer Baldwin entitled "Notes on New Primulae Acaulis Forms."
My seedlings are now large enough to plant outside. What should I do to get the soil ready for planting? Also, is there anything special I should know about getting plants ready for winter? What time of the year should I start getting my plants in shape for the winter, and how should I do it?

I don't know much about fertilizer, but I sure noticed how my plants grew with a little horse manure on them. The slugs have been pretty bad lately. Hope my plants don't get eaten up before I get some slug bait on them!

Dear Tony:

Those seedlings you have are from your selection of things in the seed exchange—all in the vernales section. They like plenty of humus in the soil. Humus smooths over the undesirable qualities of straight soil, makes heavy soil porous and sandy soil moisture retentive.

Our poor sandy soil seems to take unlimited amounts of humus. We are fortunate to have horse manure, so mix it in about half and half. While you’re at it, throw in a little commercial garden fertilizer, one that is light on the nitrogen concentration. Probably better to throw on a few handfuls of super phosphate and wood ashes.

I like to top dress all primroses with old manure. It gives them protection from severe weather and smotherers weeds.

Slugs always will be a problem. Slug baits last longer if kept under cover. Let’s use an inverted pie tin supported with bailing wire and put the slug bait underneath. The most frustrating slug problem happens as show time nears and they eat all the flowers. Best to have bait out most of the time.

Established plants going into winter benefit from phosphate, potash and trace elements. For a small number of plants Liquinox 0-10-10 is a good choice.

Clean off old and damaged leaves—anything that might invite rot. Top dressing with compost, manure, fortified peat, straw or refuse from the chipper will keep the roots from being exposed and the plants from heaving.

Avoid strong nitrogen fertilizer. It makes the plants lush, soft and tender. At show time—if the plants made it through the winter—they would be all leaves.

Primrose season starts now with the fall rains. Winter bloomers will be showing color any time. Just went out to check out Springtime (P. sibthorpii). Buds are showing. It will make great winter bouquets with jasmine.

Dad
by Alice Hills Baylor

Description of native primulas and exquisite color pictures are featured in an issue of a Japanese magazine I received recently.

Seiko Takuma, one of the editors, sent the magazine to me. We met at the rock garden conference in Seattle and Vancouver in the summer of 1976.

Pictures are great!
I wish I could read the text. It is in Japanese. But I can share descriptions of the illustrations.

There are two pictures of P. jesoana var. pubescens, pink and white showing the furiness of the stems. P. takedada, a plant in the reinii group named for the Japanese authority on primulas, has three to five pink flowers on a four to five-inch stem. It has deeply scalloped leaves and grows from a moss-covered rocky wall.

Cliff, ferns, stream
P. reinii var. kitadakensis is shown growing on a rock cliff with ferns above a cascading stream. The miniature P. reinii, one pink and one white, are growing from cracks in a grey rock.

P. hidakana is shown in crimson and in white, growing in rock crevices. The petals are deeply notched. This primula is in the subsection geranioides of corynephorus.

P. cuneifolia var. hakusanensis has a rosette of upright light green leaves deeply serrated. The cluster of bright crimson, yellow-eyed flowers is borne on straight, smooth stems which might be six to eight inches.

Most luxuriant
The plant is shown growing among rocks. It is found, according to Takeda (via Blasdale) growing in the mountains of Honshu. It is reported to be the largest and most luxuriant of all these forms.

P. cuneifolia var. hakusanensis is shown in the illustration growing in what must be a moist meadow. A yellow flower resembling ranunculus is among them.

The flowers of the primula are a brilliant cherry, five to eight in a cluster with strap-like petals on a smooth stem.

Doesn't mind cold
The magazine shows P. cuneifolia, which seems smaller. The leaves are not as deeply notched. The white, yellow-eyed flowers are held on a smooth stem. This primrose was found in Siberia in 1815, and it is also found on the four northern Japanese islands, the Kurile Island and in Alaska.

P. macrocarpa is growing among rocks near a receding snow bank (like on Mt. Rainier in July). Will Ingwersen describes it as section farinosa sub. section auriculae, a rare species from Rikuchu in Japan, where it occurs only on Mt. Hayachine.

Crinkled foliage
The foliage is extremely crinkled and jagged. The white, yellow-eyed flowers grow on a straight, smooth stem—only one or two to a stem.

There are two pictures of my old favorite, P. modesta var. matsumurae. It has a short stem crowded with a cluster of deep pink flowers.

Then there is P. modesta var. samaninomontana with pink flowers and a white one. Both are new to me.

P. nipponica, also in the cuneifolia section, displays large deeply notched white flowers, four to five to a cluster.

Slight disagreement
P. yuparensis was discovered by Yanagisawa on the summit of Mt. Yuparo in Yezo, Japan, in 1913. Prof. Takeda associates it with P. farinosa, but Will Ingwersen grew it and associates it with P. modesta.

It is a sturdy, short-stemmed miniature. The flowers are notched and rose-pink. The leaf margins minutely denticulate, without farina above but lightly covered with fugacious white farina below. It bloomed in Edinburgh but did not set seed.

The flowers on P. kisoana alba var. shikokiana have large, yellow eyes and are clustered on a very furry short stem. P. kisoana var. shikiana is very similar with bright rose flowers and a large red eye. I have P. kisoana but not this stunning variety.

Pot subjects
Four primulas are pictured as pot subjects. One is the extremely short-stemmed P. bracteosa, which is snuggled down among dark green foliage with a light green serrated edge. The large flowers have notched petals and a white ring surrounding a deep red eye.

P. rubra, deep pink, shows the white tube and eye with six flowers in a cluster above the whorled rosette. I grow Boothman's hybrid, which is deeper in color.

Pictorial display
P. allionii and P. pedemontana are both lovely specimens in pots. So are P. auricula Golden Queen and P. marginata. P. rosea, P. polyneura, P. alpicola, P. denticulata, white juliana, florinaeae and two candelabras, P. bulleyana and P. pulverulenta which finish the pictorial display.

I am indeed indebted to Miss Takuma for sending me this beautiful Japanese garden magazine. I especially enjoyed my visits with her in Seattle and Vancouver.
Primroses at Monticello?

That's right. And Thomas Jefferson claimed he'd rather be a gardener than anything else on earth.

Jefferson liked to garden. He plotted and planned, planted and pruned. He carefully recorded his observations in what began as a diary of a garden and grew to become a comprehensive book.

Gardening accounts for 1767 include his first reference to a primula: "Apr. 2 sowed Carnations, Indian pink, Marigold, Glove Amaranth, Auricula . . ."

In 1771 Jefferson wrote elaborate plans for the landscaping of the grounds at Monticello. He planned for waterfalls and terraces, for tree care and preparation of the ground for planting, for refuge areas to harbor wildlife.

He listed trees, shrubs and hardy perennial plants he wanted to include on the open ground at the west side. The primrose found its place there at Monticello.

By 1806 Jefferson was writing to Bernard McMahon, seedsman and florist at Philadelphia, for his best seeds and plants. He asked for some auriculas.

McMahon answered by confessing he didn't have any auriculas "worth a cent, but I expect some good ones from London this spring, and if they come safe, you shall have a division next season."

Jefferson claimed that those who "labor in the earth are the chosen people of God."

He wrote, "I have often thought that if heaven had given me choice of my position and calling, it should have been on a rich spot of earth, well-watered, and near a good market for the production of the garden. No occupation is so delightful to me as the culture of the earth, and no culture comparable to that of the garden."

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Tacoma, APS grower dies

Lee E. Campbell, 72, a capable and energetic primula grower, died June 21, 1977, at Burnett, Wash., of a heart attack.

The Campbells—Lee and Dorothy—served enthusiastically as APS workers and stalwarts of Tacoma Primrose Society. The Campbell family also includes a son, David, and a daughter, Sharon.

Delightful garden

Diligent work by the Campbells turned their home site in an old coal mining town into a gardener's delight—fish pond, streams, tiny island and beds and borders of choice plants. Their garden became a point of interest for travelers driving to the Carbon River entrance of Mount Rainier National Park.

Mrs. Campbell will stay in Burnett until spring, but she needs to sell plants, flats, planter trays, pots, seed boxes and other miscellaneous equipment. Primroses, azaleas and rockery plants are available.

In the spring Mrs. Campbell plans to sell her home and property. The site includes three-fourths of an acre. All of the land has been under cultivation, and the gardens are just becoming known as a nursery.

Sell to gardener

Mrs. Campbell would prefer to sell to a gardener who could maintain the plants and grounds. Mailing address of the property is Rt. 2, Box 728, Buckley, Wash., 98321. Phone 829-0641.

Mr. Campbell worked as a slicer operator in Elliott Bay Mill Co. plywood plant for more than 35 years. He was a member of American Rock Garden Society, Independent Order of Forrester's and former president of South End Men's Garden Club.

Tacoma society and APS will miss the services and friendship of this kind and genial man.
"Did you hear the cars passing, somewhere at the back, last night, or were you asleep?" my sister asked in the dining room.

"I'll say I did! Whatever were they doing making all that noise with their engines?"

Up to now, we had found County Cork so quiet and traffic free.

"We'll see what is doing after breakfast," I said.

**Irish holiday**

We had had a bad winter in the North of England. I had been down with flu and had not recovered quickly. We had come to Glounthaune for a spring holiday, our first in Ireland.

During the first week we already had explored the wooded grounds of the hotel, marvelled at the size of the magnolias, camellias, acacias underplanted with ferns, snowdrops and leucojums, daffodils, crocuses and colchicums, anemones and cyclamen.

**Quarry rockery**

On cold days we had learnt to make for the old rockery. It seemed to have been built in an old quarry. The rock towered above us capped on the top by trees.

It was so warm and sheltered that a coat was unnecessary on the coldest day, so deep that full sized trees were growing in this basin. Rock steps led down from the height of the main garden to a pond in the bottom filled with Lysichitum americanum, its big leaves and great yellow flowers not out of proportion in this setting.

**Survivors, brambles**

As we walked around we saw one or two plants of *Primula pulverulenta* which had seeded themselves in a boggy spot. We found the odd wild tulip still surviving on top of one of the great boulders, but the brambles were beginning to take over.

We climbed more stone steps behind the pond and in a tangle of marbled cyclamen leaves, seedling cordylines and finely cut maple leaves, we found a dog's grave — a small stone 14 inches long and about nine high engraved with the words: NELLIE FOR 13 YEARS THE TRUE FRIEND AND DEVOTED COMPANION TO VIOLET 22ND SEPT., 1903. One day we noticed that some local child had placed a small bunch of wild flowers at the base of the stone.

**Japonica by pond**

By a second pond in the main garden, we discovered a group of *Primula japonica* growing with wisteria and the royal fern. And how we had enjoyed the large weeping cherry tree in bud which we saw from the dining-room window!

We had found agapanthus, nerines, crinums and laperousia growing happily with the native blue bells, shamrock, primroses and cowslips.

**Investigation begins**

So this morning — after breakfast — we made for the door in the stone wall which ran along the northern boundary of the gardens to investigate the noise of the previous night. We opened it and stepped into a lane.

A white one-storied cottage faced us, doubly dwarfed by its background of trees. Two old-fashioned climbing roses draped its walls, and blue bells and cowslips were growing at their feet in the tiny square garden.

**Gardener's cottage**

The cottage, built in the same style as the hotel, which had once been a private house, and at one time must have belong-
ed to it—perhaps the home of one of the gardeners.

On a grassy bank nearby a patch of yellow primroses had established a home with a group of violets—a combination that I made a mental note to remember.

Up the hill
To the west the lane rose sharply and turned, accounting for all the noise of the car engines we had heard last night.

We little suspected the part this lane would play in our future.

"I wonder where that leads?" I said, looking toward the bend in the road.

We follow the lane
Keeping the boundary wall as a guiding line, we followed the lane up the steep rise. Down the wall a few Linaria cymbalaria trailed, soon to be covered with tiny lilac flowers. A variety of ferns growing in the wall seemed to be enjoying the old mortar rubble pockets which the wall provided and the shelter of the trees whose branches arched the road.

A tall hedge and a high bank clothed with bracken and ferns hid from our view the large field which followed the cottage. Here and there an odd bulb or plant had seeded over the wall from the garden and was growing in the lane.

Cottage—another garden
We passed another white cottage. It had no garden, but a Dorothy Perkins rose had been trained between door and window.

Two years later we bought that field and two mature gardens than the field, this contrasting bit of rural Ireland. We did not foresee at all that one day we would be making our garden here in this field.

That day we were more interested in the two mature gardens than the field. We liked the field from the first moment we saw it. Through the trees of the hotel garden below we could glimpse the water of Cork Harbour as we turned.

Our field
We liked the field from the first moment we saw it. Through the trees of the hotel garden below we could glimpse the water of Cork Harbour as we turned.

Two years later we bought that field and its primroses and got some very unruly cowslips in the bargain!

We nearly always have something in bloom here. At the moment (August) the final flowers of a big spike of P. nutans. Primula algida is in flower. A double primrose raised from Barnhaven seed—it's a velvety red with a tiny silver dot on the middle-edge of each petal, polyanthus type and most attractive—just flowered from seed sown last autumn.

Autumn, winter, holiday season—all are good times for the gardener to curl up in front of the fireplace with a good book. Books on gardening—if you choose to make those pleasant hours profitable—are not always easy to find. Asking our overseas friends has brought the first suggestion from Doreen Robinson, Riversdale, Glounthaune, Co. Cork, Eire.

Good catalog
She reports, "I use D. Lloyd, 4 Hillcrest Ave., Chertsey, Surrey, England, for my gardening books. He has new and second hand. A catalog for 25p lists more than 2,000 items on gardening."

Miss Robinson also recommends Lansman's Bookshop Ltd., Buckenhill, Brayard, Herefordshire. And W. Heffer & Sons Ltd., 20 Trinity St., Cambridge, England C82 3NG is a general bookstore with obliging personnel.

"At one time they issued a good second hand gardening book catalog," Miss Robinson said, "I don't known whether they still have the second hand department." Heffer specializes in hardbacks.

Postal paperbacks
For gardening paperbacks—and others too—she uses J. Barnicoat Ltd., P.O. Box 11, Falmouth, Cornwall, England. This is a postal service firm which sends abroad.

Do you have a favorite U.S. bookshop? Miss Robinson would like names of those who specialize in general as well as gardening volumes.

World sources?
What about our Canadian and European and Japanese and Australian friends? And all the rest of you?

If you've found a source for good gardening material that you don't mind sharing, we'd all like to know. There are lots of long winter evenings ahead.

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Invites all Auricula and Primula Lovers to join this Old Society
Hon. Sec., Mr. P. Green
Primrose Hill, Bell's Bank, Buckley, Worcs., England
A good soil is hard to find. We are seldom lucky enough to find just the right soil in our gardens. We have to build it to our own specifications with fertilizers, pH adjustments, and soil structure improvements.

**Clay over hardpan**

When I moved here to retire and grow primroses, I found my new soil was 10-inches of clayey top-soil over hardpan. For landscape ornamentals, and especially primroses, I wanted it to be loose and friable, easily tilled, well-drained but with good waterholding capacity.

These technicalities translated into a simple need — build up the organic matter. Here's what I have been doing about it:

**Shredder eats debris**

My first purchase was a 5HP brush shredder. With it I went to work on years-old piles of leaves, brush and prunings. Then came weeds, blackberry vines (they fought back, but in they went), salmonberry, osoberry and any tree branches from my clearing operations that were less than 1-inch in diameter. In short, any plant residue I could handle was shredded up to go into either compost or mulch.

**Wire cylindrical bins**

My second purchase was a roll of 3-foot high welded-wire fencing, 2"x4" mesh. From 12-foot sections of this I made cylindrical compost bins. I like these better than wood or concrete structures because they are cheap, light, easy to set up, move, empty or fill.

In a climate drier than ours I might use a black plastic liner to keep the compost from drying out. Usually, however, one can pack the plant material against the wire side as the pile is built in such a way...
that moisture is retained and yet air can diffuse in.

Bins hold plant waste
All of my plant waste (shredded if necessary) is placed in the bins, watered, fertilized and packed down for best composting. There are many recipes for making compost—you find them in organic farming magazine, garden encyclopedias and county agents’ offices. Choose one at random, get started and learn by experience.

Here are some tips:
Don't get the compost too wet.
Technically the composting process is carried out by highly aerobic, thermophilic microorganisms.

Need heat and air
This means that the bacteria and fungi that decompose the material require good ventilation and high temperature. They generate their own heat by their rapid metabolic rate.

Dense, wet plant material won’t compost. It will ferment! I mix coarse and fine material together as I build the compost pile so that it can be tramped down as I go without getting too solid.

Not much soil
You don't have to add layers of soil between layers of residue. A shovel-full once in a while is all you need to inoculate with soil organisms. Too much soil can cause waterlogging. I use no soil and do not have to inoculate. There are plenty of the right microbes on the plant material.

If your mixture does not heat up within two or three days, it is either too loose, too wet or too stale. The best solution is to fork it over into another bin, adjusting the packing better and perhaps mixing in some fresh lawn clippings or, better yet, some fresh manure.

Heat kills pests
The heating is important because it is a natural pasteurization that kills most weeds, insects and diseases.

Primroses take over garden
When the heating cycle slows down after a week or so, it can be restarted by forking the compost into another bin and adding a little fresh material as you do it. If I'm lazy, I'll just leave it alone for several months. It will get there eventually without mixing.

Spice the compost
A little fertilizer and lime can be added as the pile is being built, but go easy on the lime if you want to use the compost on acid-loving plants like rhododendrons, heathers and many of the primroses. Even the pure organic gardener might use commercial fertilizers here because the microbes will convert them to organic forms by the time the composting is done.

Half-finished compost makes a good surface mulch around ornamental plants. It prevents mud splashing onto the plants, reduces erosion, aids water penetration, prevents soil packing, discourages weeds and provides an attractive dark background for displaying your flowers. And it gradually works into the soil to build up the organic matter.

Eggshells detract!
I use a separate bin for kitchen waste so I can leave this to compost longer before I use it in the garden. Eggshells, chicken bones or blackened corn cobs are not attractive among my primroses.

In these energy-conscious times some people are getting interested in burning crop residue for fuel in power plants. This is not waste fuel. The microbes burn it biologically (and without air pollution) to restore organic matter in the soil and to recycle the soil's essential nutrients.

I plan to put as much of it as possible back into the soil before the power plant gets it.

James Menzes, president of the Tacoma chapter, is a microbiologist and soil scientist. He recently retired after serving with the U.S. Department of Agriculture. His garden—and compost piles—are at 765 Tenth Court, Fox Island, Wash., 98333.
Q. I have been having difficulty germinating P. cockburniana. Can you tell me what I have done wrong?
A. The seeds of P. cockburniana must be very fresh to germinate. This candelabra is not too hardy so it is best dealt with as a biennial and seeded every year in order to keep it in the garden. It is one of the smallest of this group and also one of the most colorful. The flowers are brilliant orange. A mass planting is most effective. If P. cockburniana is crossed with either P. bulleyana or burmanica, one will have some of the most startling hybrids in shades of "sunset and sunshine" blends. Rich apricot, pink, crimson, deep burgundy are some shades I had from those crosses.

Q. Can you tell me about P. anisodora?
A. This primula was found by Forrest at 11,000 feet in wet alpine meadows in Chungtien plateau in Yunnan in 1913. This is an unusual member of the candelabra section as the flowers are deep purple to almost black. The flowers are bell shaped, nodding at blossoming time but upright at seed time. The leaves are free from farina, rounded at apex and taper at the base into broad-winged petioles. They are more or less toothed. It is an oddity more than an ornamental. (According to W.E. Ingwersen, East Grinstead, Sussex.)

Q. Can you tell me how to exterminate moles? They run in among my primroses.
A. Exhaust from a car piped in by a garden hose into the runs. A planting of narcissi will repel the moles but not kill them.

Q. Will you kindly give me detailed instructions for dividing P. auricula? I have one plant of a yellow fragrant one I wish to propagate.
A. If the plant has side shoots, it may be divided. Lift and wash the roots. Side shoots are attached to the main root or "carrot" and often have hair-like roots. Remove with a sharp razor; rub wound with charcoal or sulphur. Plant into garden with a quantity of sand around the division.

Q. I have been trying to find seeds of P. helventica, do you know from whom I can buy them?
A. P. helvenacea belongs to the section nivales. This species was found by Kingdon-Ward in the Salwin-Mekong divide in Yunnan in 1913. Seen only when flowering. No seeds were collected. It is a small plant. The scape carries seven to eight light purple flowers in a cluster, each floret 2 cm (a little over three quarters of an inch across). It is not in cultivation as far as we know. (Try Ghose & Co. You might substitute P. calliantha. P. x helvetica is a synonym of P. x pubescens. Editor's Note)

Do you have a question? Ask Alice Hills Baylor, corresponding secretary, by writing to her at Stage Coach Road, Rt. 2, Stowe, Vermont, 05672. She will select questions to be discussed in her regular column.
Looking in on APS business and pleasure

Top: Ethel and Wallace Balla of Greenwich, Conn. She is APS vice president. Left: President Anita Alexander, Boring, Ore. Bottom: APS plant sale at summer picnic—with Ross Willingham, seed exchange chairman, doing the honors. Directors and friends gathered at Herb and Dorothy Dickson’s for fun and business. Herb’s the one with the boots on. He had to work when the customers came along.

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We become accustomed to thinking of various sections in generalities of color. The section cortusoides is usually represented in the garden by such stalwart perennials as *P.* polyantha, *P.* saxatilis and *P.* sieboldii. In addition to these members of the section there may be found in some gardens such species as *P.* geraniifolia, *P.* jesoana, *P.* heucheri-folia and *P.* kisoana.

**Look alikes**
Though each is enjoyably different there is a strong stamp of membership in the section to which they belong, as well as in their general cultural requirements. Color seems to be one of the characteristics which most species of this section share; they are for the most part all in shades of pink to deep rose, or rarely white.

It is true that there are some lovely forms of *P.* sieboldii which approach a lavender or lilac blue and it is doubtful that there are individuals of the species mentioned above which occur in colors which could be called a rich deep red. As well as the blue shades to be found in *P.* sieboldii, that delightful species has given us a number of exquisite white forms.

**White forms**
White forms, it has been written, are more commonly found among those primulas with pink through purple to red flowers than among those yellow flowered members of the genus. If this is so, we eagerly await white forms of *P.* saxatilis, *P.* polyantha and others.

In general it may be said of the more commonly cultivated sections of *Primula* that they have been arranged into groups of which many are dominated by a single color. In the section vernales those with blue-purple pigments are generally somewhat isolated and represent a minority of the section.

**Pinks and purples**
The section farinosa is predominantly, though not exclusively, pink to purple as are the sections denticulata and capitata. Sections candelabra, sikkimensis and others show a delightful inconsistency in their coloration with few significant predominations.

**Color. We tune in to that.**

**Surprise. It's yellow!**
It was much to my surprise when in the course of some research I stumbled upon a description of a yellow member of the section cortusoides. *Primula eugeniae*.

*Primula eugeniae* was first discovered and collected by the Russian botanist Fedorov in Turkestan in 1945. It was found growing near snows in the high alpine regions of the Feregana Mountains, specifically near Mt. Baubaschata, at an altitude of 3700 meters, in the chinks of limestone rock formations.

**Deciduous perennial**
It is a deciduous perennial arising from a multicrowned rhizome. The leaves are kidney shaped or somewhat heartshaped in outline, with obvious lobes and very long petioles.

Lobes of the leaf are blunt and each have three to five teeth or dentations. The upper leaf surface is mostly smooth, the lower surface shows a few fine hairs, especially along the veins. The leaf blade is abruptly contracted into an extremely long, slender, narrowly winged and slightly hairy petiole, which may exceed the length of the blade by several times.

**Lots of stalks**
The fine hairy scapes are numerous and greatly exceed the foliage. Each bears an umbel of several flowers with smooth, 8-30mm pedicels of unequal length. The bracts are 4-6mm long, broadly lanceolate, pointed and also unequal in length.

The calyx is smooth, bell shaped, and cut for half its length or more into somewhat pointed lobes.

**Pale yellow**
The 15-20mm corolla is pale yellow. Its more deeply colored tube is three times longer than the calyx. The corolla is nearly flat and the lobes are notched at their ends. Both long and short styled forms occur.

The capsule is rounded. It has been suggested that the nearest allies of this interesting plant are *P.* lactiflora and *P.* kaufmanniana.

**Let's grow it**
Every effort should be made to bring *P.* eugeniae into cultivation. It is described as being very attractive and not a mere botanical curiosity. It is of great interest because of its yellow color, which is most unusual in its section. *P.* eugeniae has been recorded in cultivation in eastern Europe where it has been grown in the wild.

(Concluded on page 30)
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proven hardy and reasonably easy to grow.

With good fortune and the continued excellent cooperation which all plant societies have had with our valued eastern European members perhaps some day soon we shall find P. eugeniae in one of the numerous international seed exchanges.

References:
Fedorov in Botanicheskii Zhurnal SSSR.
xxxiii, 1, 31 (1948)

Kris Fenderson is a landscape gardener and president of the eastern chapter of APS. His address is Grout Hill, South Acworth, N.H., 03607.

American Primrose Society

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Fred Clarke, Tacoma, Wash. 1976
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Publications
Back issues of the Quarterly are available. Order from the treasurer. Pictorial dictionaries can be ordered from the treasurer for '3 each, postage included.

Manuscripts for publication in the Quarterly are solicited from members and other gardening experts, although there is no payment. Please send articles and photographs to the editor's office, 11617 Gravelly Lake Dr., S.W., Tacoma, Wash. 98499

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Two modest double primroses grow in my garden: one is lavender, the other white. They are direct descendants of divisions given to my mother exactly 70 years ago.

Our family had moved west and settled on a tract of logged off land south of Puyallup, Wash. “Grandma King,” who lived on a farm near Seattle, saw to it that we had shrubs and flowers as soon as we had potatoes and carrots. Primroses were among the treasures she supplied, and they included the doubles.

My sister still lives on that original land, and the courageous little double primroses continue to live there with her. It is through her that divisions reached my garden several years ago.

What about ‘roots’?

As I have increased these doubles I have wondered about their ancestry and origin. They are so lovely and yet so hardy—it has puzzled me that I do not hear or read about them.

“Have they names?” I have asked.

In my quest for information I wrote to Florence Bellis, distinguished originator of the Barnhaven primroses and hybridizer of the magnificent Barnhaven doubles. Her reply was illuminating.

**Centuries old**

Mrs. Bellis wrote, “The blooms of your Double Lavender arrived in perfect condition. It is centuries old, and all the divisions all over the world for these hundreds of years have come from that one plant discovered somewhere in England so long ago.

“It bears several names. The most common are Double Lavender, Quaker’s Bonnet, Amethystina. In 19th Century England it was also called Old Mauve, Evening Primrose and Lilacina Plena.”

**Queen Elizabeth helped**

Mrs. Bellis believes double lavender to be a sport of P. sibthorpii which, she writes, “. . . was brought into England when Queen Elizabeth I . . . began bringing back a great many plants from far places.” (The APS Pictorial Dictionary gives P. sibthorpii = Vulgaris Subsp. Sibthorpii, the “Caucasian Primrose”)

The white double, which is also centuries old, was listed by Mrs. Bellis at Barnhaven as Cottage White or Double White. She writes, “It is thought to have been found during the time of Gerard which would make it a white sport of P. vulgaris.”

**Heirlooms touch lives**

It appears that both of these doubles were once quite common around Portland and also on the Oregon coast near where Mrs. Bellis now lives. It pleased me that she referred to my doubles as ‘heirlooms.’

They already have touched the lives of three generations in our family and I am now introducing them into those of a fourth. Perhaps—who knows?—they will go on forever.

Gus Arneson, 1004 NW 179th Pl., Seattle, Wash. 98117, is an APS corresponding secretary and regular contributor to the Quarterly.

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Diary of a Primroser

by Cy Happy

Our bed just turned into a primrose grower's dream. Rita found sheets and pillow cases covered with life-size polyanthus and auriculas in glowing colors. Burlington Mills' Spring Garden.

Been watching for china tea cups with a primula pattern to use for trophies. Found three different brands with the same pattern—Paragon, Royal Albert and Queen (Rosine China Co. Ltd.). Any more?

Primulas in design

How well I remember Mrs. Berry's set of Spode plates, each one with a different almost life-size auricula. In my own cupboard are some ancient plates with blue and amber basket weave on the edge, spring flowers intertwined and more in the center. A good gold center alpine auricula is included.

The plates, part of my New Brunswick heritage, appear to be Copland No. 8116. I should like to learn more about the use of primulas in design.

Evelyn Balcorn reports Ralph is now in a rest home. Fortunately, he loves the social life there and is even playing the piano again.

Tacoma to host national

Tacoma Primrose Society has accepted hosting the national show set for April 8 and 9. Better start giving your best plants that extra bit of care. Tacoma club meets first Tuesday at 8 p.m. in Tenzler Library at Lakewood. All can share in plant exchange and program.

Mentioned using the Styrofoam boxes McDonald hamburgers are sold in. Tempers light, retains moisture. Did a great job on some very special gold center red alpine auricula seed. Then I saw their breakfast trays with locking lids—wider, flatter, better.

Pay dues to get on roster

Will print a new membership roster in the spring. Get your dues in to be listed. If each APS member brought in one new member, the society would flourish. Give memberships for Christmas.

Anyone know of grant money available to enhance the Quarterly? Sure would like to subscribe for shares of collected seed. The seed, offered at L40 a share, was gathered by collectors John Watson and Roy Davidson in mountainous Turkey.

Our bed just turned into a primrose grower's dream. Rita found sheets and pillow cases covered with life-size polyanthus and auriculas in glowing colors. Burlington Mills' Spring Garden.

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Zip-locked germination

Zip-locked germination is a great way to keep your plants warm and cool, freeze, whatever is necessary. When seed leaves are large enough to grasp with tweezers, plant in a seed compost.

Thanks to good friends

Gone to join Pete recently are two old friends, James Watson of Vancouver, B.C., developer of Blue Whale fortified peat moss and strong supporter of the society, died this spring. Our best wishes to Susan who had done mountains of work for the society, including being editor.

Charles Gilman died in August. We had just received a nice letter from the Gilmans, and they seemed so happy. They edited the Quarterly from 1956 to 1960. Mrs. Gilman is at Oakland, Calif.

Seed exchange is APS benefit

It's seed time. Send surplus to Ross Willingham, 2248 S. 134th, Seattle, Wash., 98168. Remember that seed exchange privileges are a major benefit of membership in APS. Buying seeds for non-APS friends defeats the purpose of your own society. Invite them to join.

This spring (and it may not be too late now) a rare opportunity was offered to subscribe for shares of collected seed. The seed, offered at L40 a share, was gathered by collectors John Watson and Roy Davidson in mountainous Turkey.

Semi-dwarf apple trees are perfect companions for primroses. Shade when it is needed without invading roots. Would you like an article on how to get old apple


Mrs. Anita Catherwood from West Vancouver, B.C., stopped in for a visit. Here is her seed germinating tip.

Advertising is increasing. All members should be alert for potential advertisers. Had to raise rates a little to keep ahead of page costs. Per issue: $60, full page; $30, half page; $15, quarter page; $10, eighth page and minimum. We have good readership in New England, New York and Pennsylvania. Should sell ads there.

APS board has been meeting at Mary McCranks restaurant on the Jackson Highway near Oak Harbor, Wash. A lot of news to share: Ruth Huston, P.O. Box 42, Gig Harbor, Wash., 98335, asked if anyone has a plant to spare of Burgandy Beauty, a small-flowered, dark red double polyanthus. She also needs seed of pink aculis, any hose-in-hose and pink cowichan polyanthus.

Semi-dwarf apple trees are perfect companions for primroses. Shade when it is needed without invading roots. Would you like an article on how to get old apple
Ralph Benedict's variegated leaves

varieties? You can get almost any variety you ever heard of if you have the right name. Many hundreds of varieties are available.

Articles? Write them or just give us the facts in outline form. We’ll do the rest. But send them in.

What about variegated leaves?

Dr. Benedict reports on a variegated polyanthus seedling. Not a typical weak specimen so often associated with variegated leaves but huskier than its fellow seedlings.

In my experience variegation usually is unhealthy. The loss of chlorophyl may be an infectious chlorosis or a deficiency of minerals. An old remedy, and generally beneficial, is a good watering with a mild epsom salts solution. If variegation is desired, vegetative reproduction is more reliable than seed.

Here’s a repeat of rare seed sources: G. Ghose & Co., Townend, Darjeeling, India, and P. Kohli & Son, Park Road, Sringar, Kashmir, India.

Worms—we love them!

Just two years ago the upper garden beds were ancient railroad fill that supported a blackberry thicket of vast proportions. I burned the thickets. A rototiller turned up hundreds of cobblestones but no soil and very few worms.

Old leaf dumps, brush pile burning remains—anything resembling soil—were hauled to the new beds, making a layer about five inches thick. Barnyard scrapings have given the beds almost a foot of rich soil over perfect drainage. Recently 1,000 California red-worms came to work for us ($5). There’s hope.