Primula Parryi, America's Largest Native Species

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WILD SWISS PRIMULA

AYMON CORREVON,* Chene-Bourg, Switzerland

The genus Primula is certainly one of the most attractive of the Alpine Flora, also one of the most popular, as everyone is able to recognize a Primula! And in the Alps, some varieties are so exciting and attractive that it is impossible not to love them. However, the culture of Primula is not much extended in Switzerland. The people do not take the time to do much gardening, so that, as a rule, most of the gardens are tidy, with lawns and flag-stones, but with very few flowers, especially no perennials; the shrubs have a larger favour, as once planted, they do not require much care. This lack of Primula in the gardens can also be explained by the fact that Gardening or specialized Primula Societies are seldom found here, and people attempting the culture either of wild Primula or of foreign ones, are led to failure, by lack of knowledge, and discouraged, they give it up. It is often so with collected species, which people really appreciate, but as they are disturbed just during the flowering period, they often perish in the garden.

Geneva is perhaps an exception with the culture of Alps, thanks to the very good botanic garden of the town, which, visited by thousands of people, encourages them to attempt difficult cultures. Our city is also a traditional retreat of botanists and of horticulturists; they have propagated, since a long time, the charm of gardening, so that amateurs of rare wild plants are perhaps more numerous here than in the whole of the country.

If you walk, in May, near wet alpine pastures, your day is enlivened by the vision of thousands of lovely pink *Primula farinosa*, which very often cover acres of land. This effect is enhanced by the vicinity of the brilliant golden Caltha palustris, and of the purple or pink wild Orchids (O. maculata and latifolia). If you get to a dry place, your admiration still increases — if possible — by the contrast with the pure and intensive blue and white-eyed Gentiana verna. It is perhaps the best vision you can have of alpine pastures, specially when large masses of *Trollius europaeus* and of the white Ramunculus aquitifolius complete the scenery.

Let us see now the other Primula we can find wild in Switzerland. With regard to their habitat, we can make three groups: 1 — The meadow species. 2 — The wet-loving species. 3 — The saxatile and high alpines.

As many duplications, errors, and confusions occur in catalogs, and other writings about the Primula, it is absolutely necessary, in order to be specific, to give the name of the author (which shall follow the name of the plant).

1 — Meadow. *Primula vulgaris* Hudson (syn. P. acutilis Lineaues, P. grandiflora Lam.) Section Vernales, parent of a large number of garden hybrids, has a single flower on each peduncle, with a sulphur yellow large corolla. It grows in the meadows and hedges of the lower South-West districts which it illuminates abundantly in the first Spring.

*Floraire*, Chene-Bourg, Switzerland

Florencé Levy, Editor Emeritus

Quarterly of the American Primrose Society

*Floraire*...© Chene-Bourg, Switzerland

Aymon Correvon,* Chene-Bourg, Switzerland

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Primula elatior (L.) Hill. Section Vernales. Yellow flowers, not fragrant, several gathered in an umbel on one peduncle. Leaves usually with a distinct petiole. Common in meadows and woods, in the plain as well as in altitude.

Primula veris (L.) Hudson (syn. P. officinalis Hill) Section Vernales. Instead of being open, the corolla, of golden colour, is more closed and fragrant.

2—In wet pastures. Primula farinosa L. Section Farinosae. Pink or purple flowers, in umbel, borne by a peduncle much longer than the leaves, these forming a rosette silvery below.

Primula Halleri Gmelin (syn. P. longiflora All.) Section Farinosae. The leaves are silvery below as in P. farinosa. The flowers are pink-purple or carmine. The corolla tube is 2 or 3 times longer than the calyx. This plant is not at all common, hence more attractive.

3—Saxatile. Of this group, a single specimen is yellow and is a rather rare and pretty ornament of the calcareous rocks of Jura and of the Alps. It is Primula auricula L.**, one of the parents of the garden Auricula. The flowers of the alpine type are of a rich yellow, also in umbel, and fragrant. The broad, entire leaves are partly covered with a white dust.

Primula integrifolia L.** Section Auricula, is sometimes very abundant in the high pastures at 6000 feet above sea level, or more. At the Bernina-Pass it makes real carpets of small, entire, elliptical leaves. The plant does not exceed 1-2 inches, and the flowers, 1-3 per stem, are violet, each petal with two well incised lobes. The plant is not viscus.

Much rarer is P. glutinosa, Wulfen. Section Auricula, confined to the Eastern Alps. The flowers are blue-violet, 1-6 per stem. The leaves are slightly toothed, without hair, but viscus.

P. viscosa All. (syn. P. hirsuta Vill., P. latifolia Lapeyr.) Section Auricula, confined to the Eastern Alps. The flowers are blue-violet, 1-6 per stem. The leaves are slightly toothed, without hair, but viscus.

P. Parryi J. F. Gmelin (syn. P. hirsuta All., P. viscosa Vill.). A smaller plant, with red-brown glandular hair, corolla throat not powdery, pink-purple inflorescence, usually in the foliage, leaves smaller and dentate. This plant is more common, and can grow in very large masses in cool rock crevices, where it flowers very soon after the snow has gone.

P. daenensis Leybold** (syn. P. oenensis Thomas) Section Auricula, is a rare plant of the Eastern Alps. It has also red-brown glandular hairs; the calyx is closed, while in P. rubra it is open. The leaves are lanceolate, dentate.

Of course there are many hybrids between all these species. One of the best is x Primula Berninae Kerner, a beautiful natural hybrid between P. rubra and viscosa, with large carmine flowers; it grows wild at Bernina-Pass.

Some other species are sometimes quoted as belonging to the Swiss Flora, but they are not quoted in the modern Floras. I have never found them, but it is very likely that they exist on the frontiers of the countries where they are native. I am thinking of P. pedemontana**, P. graveolens, P. glaucescens**, and P. minima**. I should be pleased if allowed by the editor, to write a note on all the other alpine Primroses. I hope that these notes, presented as briefly as possible, will find some interest, and induce some amateurs to attempt the culture of these species.

*Aymon Correvon is the grandson of Henry Correvon, the founder of "Floraire." His father, Henry Correvon, known to the writer since 1898, was the greatest authority on Rockplants and Rock Gardening the world has ever known. He was author of 18 books on floral and gardening subjects in the French language, a number of which have appeared in English translation. His visit, nearly a quarter of a century ago to our Pacific Northwest remains a vital memory in the experience of many active gardeners here. For three generations the firm of Correvon has been known as the most dependable source of Alpine seeds. Aymon, the son, now carrying on the business of his illustrious father merits our attention. The Primrose Society Quarterly has good reason to recognize his authority and to recommend him to every reader."

J. G. Baker, graduate of the National School of Horticulture, Chatelaine, Geneva, Switzerland.

**Illustrations of these Primula may be found in the October, 1952, Quarterly.

The photographs of P. farinosa and P. viscosa were taken by Miss Amy Cameron for MacWatt's "The Primulas of Europe." This fine book, published by Country Life in 1923, is now out of print.

The Picture on the Cover

This picture of P. Parryi was taken in Scotland by the famous photographer Mr. David Wilkie who is associated with the Royal Botanic Garden, at Edinburgh. For an illustration of a more mature plant turn to the July Quarterly of 1947. A symposium on P. Parryi follows on the next few pages.
Our Largest Native Primrose
Dr. C. L. Porter, Rocky Mountain Herbarium, University of Wyoming

Perhaps it was wanderlust, perhaps it was the excitement following the discovery of gold in the Rockies that drew Dr. Charles Christopher Parry away from his practice as a physician in Davenport, Iowa, to explore the Colorado mountains. He had previously served as a member of government surveying parties in Wisconsin, Iowa, and Minnesota (then known as the Northwest) and later along the Rocky Mountain boundary, so he was familiar with the rigors as well as the pleasures of life in unsettled areas. In any case, at his own expense he made the trip from Iowa to the headwaters of South Clear Creek and the mountains east of Middle Park, there to devote the summer to plant collecting and exploration.

His 1861 expedition resulted in a fairly large collection of pressed and dried plant specimens which were sent to Harvard for study by Dr. Asa Gray, the leading botanist of those times. Among Parry’s specimens Dr. Gray discovered a hitherto unknown Primula which had been found on the highest peaks, and in honor of the intrepid collector he named it Primula Parryi and published the name and description in the American Journal of Science in 1862.

Parry's primrose is now known to have a distribution throughout the high mountains from Montana to New Mexico, Nevada, and northern Arizona. It prefers moist situations, and is likely to be found at or above timberline where it often follows along rocky stream banks in company with saxifrages, sedges, and arctic willows. Flower stalks of thrifty plants may attain a height up to 16 inches, and the numerous erect and dark green leaves which form a basal tuft may sometimes become almost a foot long and more than two inches wide. The flowers, a deep pinkish-rose with a golden center when fresh, but turning inky-blue when dried, are in clusters of about a dozen or so, but they do not all open at the same time. Individual flowers will measure from a half inch to an inch across.

There seems to be some disagreement regarding the odor of the plants...some finding it strong and fetid (as I do), while others contend that it is rather weak and not unpleasant! Some persons are even able to detect the presence of the plants in the vicinity by their characteristic odor before actually coming upon them.

Primula Parryi

Longer ago than I care to acknowledge, I was riding up a forest trail in northwestern Colorado toward the Continental Divide and had reached that more or less open stand of spruce and fir just below timberline. Here numerous small cold streams rush from lingering snow banks in what would be midsummer lower down. It is spring in July and a lush vegetation is sprinkled with a riot of brilliant flowers. No stock has reached here but an occasional elk or blacktailed deer, newly arrived on its summer range, has recorded its movements or fed with but slight impression on the rapidly growing plants.

I had been noticing a brilliant crimson flower at intervals along a tiny stream, often actually standing in the cold water. When it proved irresistible I stopped and picked a bouquet. My flowers drooped almost before I could remount but I had made the acquaintance of Primula Parryi. Again and again we met and I got to know it well. It was common not only along cold brooks but, forty years ago, formed a goodly percentage of the forage on some high mountain ranges along the Continental Divide.

This succulent forage was prized by sheep men as “lamb feed” since ewes feeding here produced more milk and the tender vegetation invited the lambs to begin grazing early. As with the Colorado columbine, Primula Parryi has been chiefly enjoyed as lamb chops.

I have not been back recently to ride again the South Fork trail to Mt. Ethel but no doubt Primula Parryi could still be found, though probably not in anything like its former abundance, for long cold grazing dries a range, packs the soil, and changes the composition of the herbaceous cover. As I know this Primula in Montana and northern Wyoming it is of rare occurrence but sometimes locally abundant. I have seen it in bloom at 13,000 ft. on Cloud Peak in the Big Horn mountains in Wyoming, protected from grazing by jumbled boulders, and found it after a search, closely cropped, on grazed areas. Since, when ungrazed, the roots or buds live over for many years expanding into large clumps, this plant is not likely to be killed out on favorable sites under anything like normal grazing, notwithstanding its palatability. Look for it in high country where the ground is damp and the drainage swift. The only plant I can think of that might be confused with it when not in bloom is Dodecatheon radicatum. I don’t seem to recall the two mingled on the same area but the style of growth and the choice of site is the same except that usually the Dodecatheon is at a lower elevation. If you find Dodecatheon radicatum above 9,000 ft. or Primula Parryi below that elevation look again and be sure.

My favorite Primula Parryi site is a rocky slope near the Montana-Idaho boundary in late August remnants of last year’s snow linger to greet the first snows of the coming winter. The site is not ideal but one where grazing animals go not at all and plant collectors but rarely. Water is heard rushing beneath the steep piled rocks but the vegetation seems to depend solely upon the frequent summer showers and dries to a dormant condition when they are delayed. From down at the lake, a mile or so below, the rock slide appears bare, but when you finally reach it you find gravelly spots and pockets of gravel and humus collected behind rocks and that some plant has pre-empted each spot. Primula Parryi has claimed its share. In some it has multiplied over the years to form dense clumps up to a foot in diameter. If they don’t require the lightning’s flash and the wind’s cold blast at least they survive and on the rare day when the sun shines and the air is calm no plant seems more in keeping with the wild grandeur.

FRANK H. ROSE, 1020 Poplar Street, Missoula, Montana

The Plant and Seed List of Frank H. Rose is unique in that it lists the species native to Montana, Idaho, and Northern Wyoming. He goes out collecting in his jeep every year and there is a picture on the cover of his list which shows the grand and rugged country he frequents. His message to those interested in species is, “Too soon must content myself with a limited list of easily accessible and regularly ordered species. Let's become acquainted while I still have youth.”
Parry Primulas in Scotland

*Kenneth Charles Corsar

The Primulas of the Parry Section are not very widely grown in British gardens, in fact few of them are even known by name in this country. This is possibly because, until comparatively recently, the five species of the Section were included in the large Section Farinosa and were lost to sight among the mass of species, sub-species and varieties of which it is composed. Now that they have been classified by themselves and brought, as one might say, more into the open, it is probable that this interesting group of plants may receive wider attention.

All the Parryi are natives of North America, in fact their habitat is confined to the mountainous regions of the Western United States. There they live under conditions difficult to reproduce in British gardens, though no more difficult than in the case of many of the Asiatic species, which may be a further reason for their absence from collections over here. Nevertheless, of the five species known to botanists, I grow four, and in addition, one recognized sub-species. Those represented in my garden are:

- *P. angustifolia*, var. *Brodheadae*
- *P. Cusickiana*
- *P. Ellisiae*
- *P. Parryi*

None of them dare I risk in the open rock garden because the weather of Scotland is not at all to their liking. They have to be protected from the wet of winter so I cultivate them in the manners now to be described.

*P. angustifolia* var. *Brodheadae* came to me in the form of collected plants, kindly sent by Mrs. A. C. U. Berry of Portland, Oregon. All the plants dispatched arrived safely, have survived, and some have flowered. I grow them in pots filled with a very open soil mixture which contains a high proportion of stone chips, and for flowering and during the period of their active life they are exposed to the full strength of the sun. After the plants have relapsed into dormancy they are removed to a semi-shadowed house and there water, which has been given in abundance during growth, is gradually withheld until throughout the winter months they are getting practically none at all.

*P. Cusickiana* came to me also from Mrs. Berry. I grow my plants exactly the same way as var. *Brodheadae* which appears to suit them, though I admit that I have not yet flowered this Primula. The wisdom of withholding water during dormancy has been proved this year by the death of one of my plants which received water from a drip from the roof of the house in which it was kept.

*P. Ellisiae* has proved itself the most satisfactory member of the Section from the garden point of view, and though it is still not a common plant in Britain there is no reason why it should not be. I have found it amenable to culture in my Alpine house, where it is planted in a rich compost containing some 40% of leafmould. It is situated in full sun and here it has never failed to flower profusely. Fertile seed has been produced and this has germinated. So far I have not grown this Primula in the open garden, nor have I tried it in pots, though I consider that, given good drainage it would succeed in the rock garden. As to pot culture, the root system is possibly larger than most pots would hold, so that it might turn out to be difficult to maintain moisture in the soil during the growing season. With the increase of my stock of *P. Ellisiae* from my last batch of seedlings I intend to experiment with alternative methods of cultivation.

*P. Parryi* is the type species of the Section, and its most conspicuous member, has been in my garden for a number of years. I have experienced no difficulty in growing it but at the same time have to admit that it has never flowered freely. My plants have always been in the Alpine house, either planted there or grown in pots, so that its behavior in the open rock garden is unknown. When *P. Parryi* has flowered its striking appearance has excited comment, for this Primula is hardly known in Scotland and few gardeners could put a name to it. I have not yet succeeded in havesting fertile seed from this species, and in consequence have no stock of young plants with which to experiment in varying soils and situations. At the present time my plants grow in a rich open mixture in full sun, and in close proximity to *Lewisia Tweedyi* which does extremely well in my Alpine house. The conditions under which this *Lewisia* does so well could not be reproduced in my rock garden, consequently, I am doubtful of *P. Parryi* could be more at home there.

*The October Quarterly will contain a review of the new chapters in Mr. Corsar's revised edition of his "Primulas in the Garden," published by Geoffrey Blay Ltd.*

Francis Kingdon Ward

Miss Alida Livingston

Francis Kingdon Ward the son of a professor of botany in the University of Cambridge, was born in 1885. In his early twenties, when that country was still ruled by the Manchu Dynasty, he was already exploring Western China; now in 1953 he is somewhere in Northern Burma. He is one of the great line of plant explorers; the French priests David and Delavay, the Englishman Forest, Fortune, and Farrer and E. H. Wilson, who, born an Englishman, we may yet claim for our own.

Kingdon Ward's chosen country extends from the southwest of China to the Northeast frontier of India, in its own words more especially that corner of it where Assam, Burma, and Tibet interlock. It is here, amidst roaring rivers and snowy peaks in the sheer heart of the forest region that we seek the plants we desire...at altitudes varying between 7,000 and 13,000 feet.

What of the man himself? The best description of Kingdon Ward is found again in his own words, "To collect seeds of beautiful hardy flowering plants for English gardens, that is my profession. To collect dried specimens of interesting plants for study, that too is part of my profession. To explore unknown mountain ranges and find out something of their past history, the distribution of their plants, and any other secrets they are willing to reveal, that is my hobby." There is more, he is a talented writer. The long series of his books from "The Land of the Blue Poppy," published in 1913, to "Plant Hunter in Manipur," 1952, contain adventures enough to keep the reader awake late at night for months on end, and more solid information about geography, strange peoples and rare plants than the ordinary mind can absorb in years. The journeys he records are long ones in wild, untravelled places full of dangers, often quite alone with a handful of indispensable native attendants, on foot and on horseback, sleeping in the open or in native huts, drenched by continual rains, living on coarse, scarce and rather dirty food, but the impression which remains is one of inexhaustible enthusiasm, an overwhelming sense of beauty and a liking for and understanding of people of all races, creeds and cultures which far transcend mere tolerance and patience. Now he is always accompanied by the young and lovely Mrs. Ward, as brave and enthusiastic as her husband. Their best known, but probably not most dangerous adventure, occurred on their last expedition when the greatest earthquake ever recorded, which was felt over an area of over a million square miles, caught them in the remote Lobit Valley and they were missing for three weeks.

A list of Kingdon Ward's plant discoveries would fill a dictionary and there are many, many more which he was the first to introduce into cultivation, for instance fifty new rhododendrons. Among the actual discoveries are new species of meconopsis, gentians, iris; those two now well known ilies, *L. Machlinae* and *L. Wardii*, among the primulas, *P. Baileyana*, *P. Caudiciflora*, *P. Clutterbuckii*, *P. Florindae*, *P. Lutescens*, *P. melandontana*, *P. Morschediania*, *P. Normaniana*. 
Dear Mrs. Washington,

I could perhaps manage to write say a thousand words on the voyage out to Rangoon. Will that be convenient for you?

We cast off from Rangoon, the first week in December, fly to Mergui, Levi and Desa on the road to the mountains on the first day of the new year. A hundred pizzas as we do not expect to go higher than 12,000 feet.

Yours sincerely,

F. Kingdon-Ward

The Magic of Primula

F. KINGDON-WARD

At the mention of the word 'Primula' the rock gardener sits up and goes hot all over, or icy cold, according to his temperament—the former symptom denoting enthusiasm, the latter despair. For the rock gardener who dabbles in Primula in a big way will suffer both disorders.

The plant hunter's reaction is different, because his approach to the problem is different. His first feeling on discovering a new alpine Primula is one of spiritual uplift. He feels himself in fairyland, and it will not pass away with the onset of night, for it is a real fairyland in which delicate and miniature flowers are part of a savage and immense landscape, where only wind and rain and snow have dominion. But after a moment of ecstasy he remembers that he is not there primarily to enjoy himself, but for a practical purpose—to do a job, and he also will go hot or cold. With him, however, it will be less a matter of temperament than the result of his professional summing up of the plant's possibilities. For the question he is perpetually asking himself is: will it 'do' in English—or American—gardens? Can it be introduced into cultivation? That depends on a number of factors. First one must collect ripe seed. That sounds easy and generally speaking it is, but not always. However, that's only half the battle.

Regard then the two great sections 'Sikkimensis' and 'Nivales,' which between them include, in my opinion, more aristocratic Primulas than any other two sections of the genus with its 600 or 700 species. Never shall I forget my first sight of the 'tea rose' Primula (P. Aglencia var. tibetiana). P. Aglencia, (without frills), was already known, at least to botanists. But the fact that hardly any gardener nor himself an expert in the genus has ever heard of it is a measure of its fugitive appearance in the horticultural world. It has white flowers.

That afternoon we halted in the alpine valley whose slanting sides were striped for a thousand feet alternately with snow cones and wedges of Rhododendron forest. I was wet through and tired after the climb from the village at 6,000 feet to our first camp at 9,000 feet. We pitched the tents, I changed, had a mug of hot tea, and felt fine. I was champing to go out and collect plants—a glance up the steep valley and up the sloping scree to the crags, still white with snow, showed me that I had arrived at a paradise of flowers. Across the foaming torrent was a gully which looked promising. I skimmed across the snow bridge and started up the gully. Within five minutes I stopped, spellbound, taken aback by what I saw. At the foot of a cliff which dripped and drooled water from the melting snow, grew a colony of rose pink Primulas. I could hardly believe my eyes, so large, yet of delicate design, so enchanting a shade were the flowers; and for a minute I was speechless on my knees before them, trying to formulate a prayer. It was the first alpine plant of the year, and augured well.

I never found it again, but in due course I returned and collected a packet of seed, which I sent home. If the seeds ever germinated the seedlings all died, and I am still the only European ever to have seen the 'tea rose' Primula in bloom. Two years later I found P. Aglencia again, but again in a new dress; for here the flowers were neither white nor pink, but a rich crocus yellow, and there were thousands of them spangling the emerald alpine turf like glow lamps. And again, seed went home failed even to germinate. Twice more, before the lights went out in Europe, I came across this luminous harvest moon variety and sent home ample seed; yet never has it come of it, and P. Aglencia var. atrocrocea is but a dream, though a dream which some future plant hunter may come true.

If, on the other hand, the plant hunter finds a new Primula and recognises it as belonging to the section 'Sikkimensis,' his path is made smooth for him; for the 'Sikkimensis' are as good 'doers' in the garden as the 'Nivales' are bad. P. sikkimensis itself, for example, from which, of course, the section derives its name, is a good 'doer.' Given a stream or marsh in your garden, or even a light soil—for water is easily supplied—what could be easier to grow! The sulphur yellow crinoline-shaped flowers, clustering round the top of a green wand and swinging freely in the breeze as a peal of bells, are dainty beyond belief.

Again two 'Sikkimensis' Primulas from the harsh canyons of Tibet—P. Florindae and P. alpica (the latter in three colour forms)—are popular alpines of the day: less, perhaps, because they are supremely beautiful than because they are supremely easy. One is justified in believing that when one discovers a new 'Sikkimensis,' it is in the bag. Yet once I met with a rebuff. It was with whoops of glees that I found a dwarf wine red 'Sikkimensis' in the torrential alps of Assam, and called it the maroon meadow Primula 'What a prize!' I thought. 'It will become a popular plant; millions will see it.' I nearly killed myself to get seed; it was a really tough assignment, as the tribesmen had turned unfriendly and the bitter winter hostile.

And what happened? The seeds certainly germinated, for I saw living plants at Edinburgh; but before they could flower, one by one they died. England proved to be their graveyard!

Yes, plant hunting has its compensations, its high spots, even its Roman triumphs, but also its atonements.

P. Florindae Ward, whose fragrant yellow bells now perfume many gardens

We are grateful to Mr. Lanning Roper, Associate Editor of the Journal of the Royal Horticultural Society, for sending us this picture of Kingdon Ward. It is the property of Jonathan Cape, the publishers of Mr. and Mrs. Ward's books, who loaned it to us without charge.
Observations of Primula Forrestii

by Walter C. Blasdale

This is one of the many plants of Chinese origin named in commemoration of George Forrest who devoted many of the best years of his life to the exploration of the mountains of southwestern China and who was also a highly competent botanist. This and five other Primulas derived from the same region stand apart from the other species of that genus in so many unusual characters that it is rather surprising that no one has suggested making a new genus out of them. However I would regret to see the breaking up of this genus into smaller units.

In 1906 Forrest found it growing in abundance in the crevices of limestone cliffs at from 9,000 to 11,000 feet on the eastern flank of the Lijiang Range of northwestern Yunnan. Seed collected by him was sent to England and plants grown from it, by the firm of Bees and Co. of Liverpool, were awarded a first class Certificate of Merit at the 1909 Chelsea Show of the Royal Horticultural Society. It proved to be perfectly hardy in England and Scotland and was rated as a very important addition to the long list of Primulas grown either in the open or in an alpine house.

In 1912 Balfour, a very devoted student of the species of Primula, showed that the one to which he had already given the name Forrestii was closely related to certain of the members of the Bullatae Section which had been established by Pax in 1889. One of these had been given the name P. bullata by the French botanist Franchet. This name was based on the fact that the upper surface of the leaf blades was raised into a series of blister like swellings (bullae) between the veins and nerves and Pax used the same name to designate his newly established section. Another notable feature of this group of species is the stout, woody rootstock which remains for several years the shrivelled remains of the petioles and to a lesser degree of their blades. The rootstocks of P. Forrestii are further distinguished by their great length and their plants by their longevity. These features are shown in a photograph made by Forrest, here reproduced showing a natural plant whose root system had been established on the face of a rocky cliff and whose rootstock had attained a length of three feet and supported apendulous mass of foliage and flowers at its upturned end. It will be noted that nearly two thirds of this rootstock is concealed by the tangled remnants of dead leaves accumulated during many years. From his measurements on this and similar plants and an estimated annual average rate of growth Forrest calculated that this plant was between fifty and one hundred years old. In view of what we know about the life histories of the other Primulas this is a remarkable record. As far as we know from the available records the other species of the Bullatae Section do not develop rootstocks of comparable length, although they are large and contain much fibro-vascular tissue, that is somewhat woody rather than herbaceous. Similar statements also apply to P. dryadifolia of the Dryadifolia Section, P. verticillata of the Verticillata Section and P. suffruticosa of the Cuneifolia Section. The resistance to decay shown by the leaves of all these species may result from the large amount of fibro-vascular tissue which they contain.

Primula Forrestii is, with the possible exception of the closely related P. redolens, the most pleasing member of the Bullatae Section because of the abundance, the beauty and the evergreen character of its yellowing green leaves and the pleasing form of its many flowered, golden yellow umbels which continue to form over an interval of two months. In this part of California new leaves continue to appear and retain their normal color and freshness throughout most of the year. The resulting mass of foliage completely conceals the end of the rootstocks and it is only after several years that the gradual elongation of the rootstocks makes their presence recognizable. The blades of the leaves are longer than the petioles by which they are supported. The upper portions of the latter are cylindrical but gradually become flattened where they join the crowns. The picture does not show that the entire length of the petioles and larger veins are thickly sprinkled with three or four celled hairs of widely different lengths; most of them terminate in very small glands which yield a sticky secretion. The upper surface of the blades are glabrous and, because of their deeply sunken veins and nerves, are rugose or bullate; the lower surface is divided into areas of white or yellow in color because of the farina secreted by large numbers of very short glandular hairs quite different from those on the veins which separate these areas. The same kind of hairs also form small patches of farina on the outer surface of the petals.

The scape is stout, erect, and covered with the same type of hairs as those on the petioles; the longest of those shown in the photograph had a length of nine inches. Flowers are developed successively over a long time interval, forming at first a one-sided umbel, owing to the curvature of the peduncles which bear them, but these curvatures are gradually eliminated, as in the cowslip and P. Florindae, causing the flowers to become erect.

As in most species of the genus the flowers are dimorphic (all on the same plant are either thrum-eyed or pin-eyed) but in this species both stigmas and stamens are supported much below the mouth of the corolla tube and are easily overlooked. The species of the Bullatae Section are generally acknowledged to be poor seed-producers in cultivation but there are few data available concerning seed production in their natural habitats. In cultivated plants of P. Forrestii pollen is produced in great abundance and the calyx and other parts continue in active growth long after the corolla has withered and very little seed is produced. It is quite possible that in their native habitats there are insects which bring about cross-pollination between thrum-eyed and pin-eyed plants, or vice versa, which is known to insure better seed production in many of the species of Primula. The corolla tube of P. Forrestii is decidedly long and suggests that of P. verticillata both as to form and color but the latter species produces seed in abundance both in nature and in cultivation. Many observers report that its flowers are fragrant but in only a few specimens have I been able to detect fragrance.

1. A copy of a photograph made by Forrest showing an old plant of Primula Forrestii growing in northwestern Yunnan and reproduced here from the Journal of the Royal Horticultural Society Vol. LIV, Part 1, 1929.
respects contradictory. The earlier experimenters endeavored to imitate the conditions thought to prevail in its natural habitats, including crevices in limestone rocks, a southern exposure, and a hot dry situation. At present it seems to have been established that a moderate shade and a mild limestone is not an essential component, at least moderate shade and a mild rather than a hot situation, give the best results. In this connection it should be noted that its natural habitats include a high altitude in which temperature changes are large and the rate of change rapid, also monsoon rains during most of the summer which ensures abundant moisture and reduced sunshine. Remarkably successful results in the cultivation of this species were reported by E.R. Cox in New Flora and Silva, Vol. 1 (1928), p. 177. He found the ideal situation in southern Scotland near sea level, "at the foot of a large overhanging rock facing south where the roots can get down to cool moist earth and the woody stock can be kept dry by the overhang and will receive the requisite amount of sunshine." One of his plants was in active growth at the end of eight years by which time it had produced a two-branched rootstock, one branch being two and the other nine inches long.

Here in California I have had good results by planting in partial shade in a grit-containing mixture of loam and leafmold and a constant but not excessive water supply. My plants retained their green foliage throughout the year, made their main growth during February and March and began to flower early in April. Like most of those who have attempted to grow it I have had plants which suddenly ceased to grow and soon died for no apparent reason. It certainly needs good drainage yet it soon begins to wilt if the water supply is not regularly maintained. Startling plants from seed presents little difficulty although the rate of growth is slow during the first year. The beginner will do well to grow his first specimens in pots which makes it easy to vary the conditions under which they are grown and ascertain which give the best results.

There is little doubt that the main reason why this species has not become more popular is the scarcity of its seeds. I am now making some experiments in cross-pollinating pin and thrum-eyed plants and find some indications of an increase in seed production by this procedure. Unfortunately the prospects for securing seed from its natural habitats at present are not encouraging.

Finally some statements should be made relating to P. redolens the nearest relative of P. Forrestii. Seed bearing plants of it were discovered by F. Kingdon Ward in 1911 in the gorge of the Mekong River due west of Likiang and some of this seed was sent to the Edinburgh Botanic Garden. From plants derived from this seed it was described as a new species. It differs from the better known species in minor details only; its petals are white or light lavender, its calyx is smaller and its leaf blades are more nearly lanceolate. I have not been able to recognize the greater fragrance implied by its specific name nor did I find it commented on by others.

I was fortunate enough to have a few seeds sent me from the Edinburgh Botanic Garden many years ago from which I grew some fine plants. One of them lived for eight years in a pot kept in an unheated greenhouse. None of these plants produced seed and apparently the species is no longer in cultivation. One grower of it reported that his plants were all thrum-eyed. It is to be hoped that further collections of natural seed may again make the cultivation of this excellent plant possible.

You ask me to write to you about primulas of the Sikkimensis and Nivale sections, how they grow at Keillour and how we cope with their cultivation.

We think that primulas do well here because we have a clay soil as a basis. The strong growing Sikkimensis and Nivales are planted in the water garden in beds which have been well dug with leaf mould, old sawdust or compost and sand incorporated with the clay. These beds receive an annual top dressing of similar materials to prevent drying out in summer. The less 'easy' are planted in the Peat Wall garden—there they grow in beds made of compost above the clay but when established, send their roots down into the clay and like it.

The Sikkimensis we find to be on the whole easy doers. The alplicas are delightful in their many colours of purple, deep and light blue, white and almost pink, but with us the yellow form is less evident. In early and mid-June, large beds of alplicas make a charming show.

Primula chambensis is less easy. We raised our stock from seed collected by Mr. Ludlow and Major Sherriff (L&S 17475). Those planted in the clay beds failed, but in the peat wall beds have done well. It is more interesting than outstanding primula but very distinct.

Primula florindae—this wonderful primula which was discovered by Captain Kingdon Ward and which gained a First Class certificate from the Royal Horticultural Society in 1926, is now an everyman's plant or should be. It likes a damp situation but if 'done' too well the foliage surpasses the flowers. With us, as in other gardens P. florindae has hybridized with P. Waltonii. These hybrids are now well known and their wide range of colours is most unusual.

** Primula secundiflora** will grow anywhere in our garden. It is charming and graceful but not very showy. It is not long lived in dry conditions but self-seeds readily, as many primulas do with us. We think the autumn annual mulch promotes natural regeneration.

Primulas ioessa, ioessa var. subpinnatifida and reticulata grow in the peat wall beds. P. ioessa var. subpinnatifida gained an Award of Merit in 1949. Primula reticulata is a most delightful and dainty plant which should be more widely grown.

Primula sikkimensis, the type species, grows and multiplies in the water garden beds. Its scent is enchanting and it has a prolonged flowering period. Every three or four years one must or should dig up the good 'doers,' divide them and replant. The reward for this labour is indeed worth while. Primula sikkimensis var. pudibunda, we still grow but find it of little interest.

Primula Waltonii is said to be difficult in cultivation, but at Keillour, in a semi-shaded shrub border it is happy and multiplies.

As regards the Nivales, Primulas chionantha, sinopurpurea, sinoplastaginea and melanops do very well in the water garden beds. They are on the whole short lived but produce masses of seed which germinates quickly. We mostly maintain our stock from self-grown seedlings. Primula chionantha is difficult to keep true to type as it hybridizes readily with Primulas sinopurpurea and/or sinoplastaginea—we are unable to distinguish between these two primulas.

Primula obvisifolia prefers a more dry situation but is very adaptable. We have plants which are at least three years old, growing in a selected spot in the water garden and in a high bed in the peat walls. This is a most beautiful primula and it sets seed well but germination is sometimes rather slow. A pan of our own seed sown in January 1952 only germinated in February of this year.

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**FIRST COME, FIRST SERVED**

The rarer seeds are quite generally sold out before the time comes to order them in the early spring for immediate sowing. It is a good idea to order ahead as soon as one hears about them. They are quite easy to care for and it is pleasurable to have one's treasure in the refrigerator. When the seed comes to you place the envelopes in a mason jar, seal the jar to keep out the drying air, and place in your refrigerator away from the freezing unit.

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Keillour Castle
Methuen, Perthshire, Scotland
March 3, 1953

Dear Editor:

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We think that primulas do well here because we have a clay soil as a basis. The strong growing Sikkimensis and Nivales are planted in the water garden in beds which have been well dug with leaf mould, old sawdust or compost and sand incorporated with the clay. These beds receive an annual top dressing of similar materials to prevent drying out in summer. The less 'easy' are planted in the Peat Wall garden—there they grow in beds made of compost above the clay but when established, send their roots down into the clay and like it.

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Primula Stuartii no longer exists with us. We were given a plant some years ago by Major Shaw Mackenzie of The Black Isle, Inverness-shire. The plant doubled up but did not flower and a dry period after division proved fatal. We hope that this species still grows on The Black Isle.

In November 1949 we received two dormant plants of *Primula macrophylla var. macrocarpa* (L.88. 19712.) Both these plants flowered and set seed which germinated, but I cannot say that they really like us—we always feel that we may lose them at any moment. *Primula macrophylla var. Moorcroftiana* is another doubtful resident in the pear wall beds. *Primula elongata* will perhaps be more persistent provided it is given some form of protection from our alternating winter climate. We grew Primula advena for a year or two but though it of little garden value. I suppose this is why I failed to collect seed, so now it is lost to us.

We have just germinated seed of *Primula obliqua* from seed sent to us by Colonel Lowndes early in 1952, when the seed was sown. We have never germinated *P. obliqua* before although we have tried to do so. The pan, with other primulas which failed to germinate last year, was placed outside and covered with snow in February (we had so little snow this year that we had to collect it in barrows to cover the pans). This treatment gives us some good late results.

Of all the Nivales which we have read about and seen photographs of, *Primula Agleniana* is the one which we would most like to grow but we have never even possessed one seed. Captain Kingdon Ward’s description of his discovery of *P. Agleniana var. thearosa* and *atrocrocea* can only leave all primula enthusiasts with the hope that he will once again find Agleniana and send home seed.

Yours Sincerely,
Mary Knox Finley

“If the Odds are Great the Triumph is Great”

R. E. Kartack, Baraboo, Wisconsin

“Hope springs eternal in the human breast,  
Man never is, but always to be blest.”

With an apology to Mrs. Crewdson I complete the passage from Pope’s “Essay on Man” which seemed to run in her mind while penning her charming composition, for the January Quarterly, under the title “Concerning an Amateur’s Debt to the Plant Hunters.” We are, indeed, greatly obliged to the plant hunters of the last half century; and our gratitude can best be expressed, as Mrs. Crewdson has demonstrated, by a desire to grow the rare plants they have introduced to the gardening public. Pope’s gloomy foreboding, as noted in the second line of the quotation, can be discounted by the amateur at Helm Lodge for she has succeeded in establishing, in her garden, many of these gems from high altitudes. The amateur in the Baraboo Hills, however, has little reason to doubt this dire prophecy when he reviews the many efforts of past years, to bring rare primulas to the flowering stage.

When we consider the matter of growing the rarities of the Primula World, in situations remote from their natural environs, these lines from Pope may well serve as the text of a discourse on attempts to solve the mysteries of the design of nature in relation to plant life. The one thing all adventurous amateurs share in common is a long succession of failures. Fortunately failure is not the natural and probable consequence of persistence and, every now and again, hope is revived with the flowering of one of the obstinate jewels of the Alpine Regions. For the gardener there is nothing so exhilarating as the first bloom on a new species. It may be the sole survivor of a large group of seedlings. It may be the only one of its kind on the whole American continent. It may flower and die but it is the reward of effort and it may supply a bit of knowledge which can insure future success. Many times, in the past thirty years, these waifs of rare beauty and gypsy tendencies have come to brighten our gardens.

The long continued pursuit of an endeavor which has the earmarks of being foredoomed has caused some lifting of eyebrows of visitors to our gardens. I will here inject a few random remarks in an attempt to dispel the notion that such gardeners suffer the taint of being “A Little Queer.” I go back to my earliest recollections of the seed bearing plants. Back more than a half century to the little gardens of immigrants, from the old world, who were among the early settlers of our Commonwealth. Quantities of little garden plants were enclosed by low picket fences and containing among other plants one they referred to as “Dusty Millers.” Many a year was to pass over before I again recognized this plant as the Border Auricula of our garden. While still in my teens it was my good fortune to spend odd hours in the company of a number of florists of the old school. That was back in the days before fungicides and insecticides came in cans and bottles and folks took their vitamins in the form of pills. Well do I remember the glass houses of those days. The pungent odor of damp tobacco stems and the rank smell of the tobacco smoke, from the pipes of these inveterate smokers, that mingled with the spicy fragrance of the old florists’ carnations which bloomed along with the hot-house primulas. That brand of tobacco, the way we smok’d our seeds so with to germinate in the greenhouse, was no other than the kind which provoked or inspired Bert Leston Taylor to write “Pipe Smoke Carry” his delightful narrative of the north woods where the *Primula mistassineca* grows.

Life was simple in those days. Perhaps insect pests were not such a great problem. Perhaps the curvés cut from lush damp meadows and piled turf side down in such a way as to admit air to the pile, in due time made a better loam than is now readily available. Perhaps leaf soil from the floor of a virgin hard wood forest was a better leaf mould than we can make from a heap of leaves. Certainly these were prime ingredients to mix with sharp sand and stable manure to make a seedling or potting compost. With skill and patience these old florists brought forth some remarkable results in their greenhouses.

In the early days of my explorations with primulas, seeds of rarier species were hard to come by. I have examined some old foreign seeds lists and find only such as Show, Alpine, and Border Auriculas, a fair representation of the Vernales and Candelabra sections, and only a few of Sikkimensis, Cortusoides, Farinosa, and Capitatae sections, all long established in Wisconsin soil. Much more space was then devoted to such species as were grown under glass. To get a few seeds of the rarier hardy sorts one had to be resourceful and sometimes a bit bold. By simple expedient of striking up an acquaintance with some amateur abroad, a few packets of seeds might come our way. Sometimes we could get on the trail of a seed collector in the Alps of Europe or in the Himalayas of Asia. For a small sum, and after much delay, copious packets of seeds would show up in the mail box. Such free interchange of seeds is no longer necessary, and probably now impossible in lands which have been swallowed up by the Russian juggernaut. Now we can find many rare species listed in the advertisements in the Society Quarterly and in the Bulletins of foreign Societies. It was not my good fortune to participate in the distribution of seeds sent home by the Ludlow-Sherriff expeditions; and it was not until 1951 that I was able to secure seeds of any of these species after they were established and had flowered in Britain. All these seeds were successfully germinated and the seedlings grown on in good order until July and August when suspicion of the elements destroyed many of them. The most trying period for both mature plants and seedlings is midsummer when many days of hot dry air are followed by pelting rains and hard frosts. Plants in late fall, frozen into the soil and covered by snow for a long period (now in early March we have had in excess of one hundred days and a recent record of 146 days) seldom fail to germinate when the soil begins to warm up. There are seeds of many species our under the snow and seedlings of rare species are in the nursery beds. Whether they are alive and will be ready for action when the snow melts away is something known only to the gods.
The gardener, who has grown many seedlings over a long period, is conscious of the strange and unknown forces at work in nature. In the evolutionary process new characters show up, from time to time, in garden plants. Whether they be mutations or the natural selections intended to meet conditions strange to these plants, they are interesting specimens. Such plants may have no appeal to the critical eye of the florist but to the amateur they arouse stimulating speculation if not always admiration.

I will mention but a few of such plants which have appeared among my seedlings. Probably the most fascinating of these were a rather large group of bright and fantastically mottled polyanthuses from seeds I supposed would develop plants of that quaint and beautiful variety called Gold Laced polyanthus. While there are still in the garden a few relics of these gorgeous beauties the best of them have vanished, and I have never seen the like again. Then there was a miniature waft which grew up in a planting of English primroses, so small that it had to be rescued before it was crowded out of existence by its stronger neighbors. It was quite evident that it bore the blood of *P. juliae* and when it showed its almost black flowers, with an orange eye, they completely obscured the foliage. With other and more showy primroses, I put this little plant in an exhibit at a May flower show. Perhaps it is not strange that it was scarcely noticed, but to an ardent primula grower it was one of those gems that show up once in a life time. Most of the members of the section Cortusoides are at home in our soil. In a previous article I made mention of a variety of *P. Sieboldii* which we call “Keitel.” This Sieboldii has a habit of blooming from a week to ten days earlier than the general run of Sieboldii plants; but in some years a large and perfectly formed white specimen comes into bloom when Keitel is still in flower. From crosses made between these two, with Keitel as the seed bearing plant, the best clear pink specimens of perfectly formed Sieboldii we have seen in our garden have resulted. The *Primula vaginata* long defied our efforts, being considerably more reluctant to dwell in our garden than its cousins, but it has finally settled down with some contentment and the colony increases from year to year.

An old gardener, before laying down his pen, would like to make one further observation and take exception to the remarks of another of the English writers. It was Dekker who wrote: "The abbreviation of time and the failure of hope will always tinge with a browsner shade the evening of life." With the abbreviation of time I have no quarrel. As we slow up the days pass quickly; but as to that "tinge of the browner shade," I can say with authority that it will never afflict the grower of primulas. Each succeeding springtime opens up a new world—a world of that purity which makes it joy to be an explorer, along the garden path, when the dew of early morning rests upon the maiden blooms of the primula seedlings.

Of Interest to Members

The *Garden Journal* for May-June carries a fine article by Mr. Charles Crawford, the Primula Tester for the Men's Garden Clubs. Mr. Crawford has been of inestimable value to the A.P.S. as he has signed up quite a few new members and has increased the knowledge of Primulas generally.

We have been receiving a great deal of flattering mail from this country and abroad because of the list of Primula and Synonyms in our last issue. When all our members learn how to use the list it will be of general value. As it is, this Quarterly should be in every library and horticultural society. This list is the only alphabetical list of all the Primulas which has been published with synonyms which have been in use since 1928. Our members are urged to help with any corrections or additions they can make.

The October Quarterly will be written from a growers point of view. It is going to be a compilation of all the information we can gather together on the raising of different kinds of Primulas. Readers are urged to send in "growing hints."

(Continued on next page)

**Primula Rusbyi**

C. C. Montfort*

The section Parryi (Sir William Wright Smith and Dr. H. R. Fletcher) contains six species—*P. angustifolia*, *Cusickiana*, *Ellisiae*, *Maguirei*, *Parryi*, and *Rusbyi*. This section has much in common with the sections Cuneifolia and Auricula, in fact Torrey has suggested that *P. angustifolia* showed kinship with *P. integrifolia*—had this view been substantiated it would have raised a very pretty distribution problem. All six species are natives of mountain districts of western U. S. A. *P. Rusbyi* itself is found in New Mexico and Arizona, growing at its best on rocky well-drained slopes high up in the mountains. It also occurs in very thin soil on ledges in the rocks at 7,000-10,000 ft., but in these situations it is not nearly so fine a plant. It was brought into cultivation soon after its discovery, and in 1884 was awarded a First Class Certificate of Merit. In Britain it has always been a rare plant in gardens and seldom (if ever) produces seed—a sign that our conditions of climate are not to its liking, or perhaps cross pollination is almost a necessity, and the plants are not grown in sufficient quantity to ensure this.

As in the sections with which it is connected the edges of the leaves, in bud, are rolled inwards. This definitely excludes it from the section Nivales in which it was originally placed. The root-stock is perennial, short as compared with the section Auricula, but it retains the withered leaves of the previous year's growth. The leaves are rounded at the apex, broad to narrowly oblong, leathery in appearance and slightly toothed. The scape can reach nearly a foot in height, but 6-8 ins. is more usual, and as many as twelve flowers are borne. Rose-red to purple, with a yellow eye surrounded by a crimson ring, is the official description of the colour, but with his customary exuberance Farrer has "lived and obscure red-purple, like an old bloodstain on faded velvet."

*Mr. C. C. Montfort is the "Honorable Editor" of the Quarterly Bulletin of the Alpine Society. It is rumored that he is the famous Pedicularis who authors the charming "Abstracts and Chronicles of the Time" from The Alpine Commentary, which appears in the Bulletin.*

There was a lovely display by "a club" at the Kirkland Show. It was an artists easel and a palette and the colors on both were provided by Primroses! Mr. Mann Leiser had a display of Pink Polyanthus, made up of some of his own originations and some of Linda Eckman's, which showed how wonderful the Polyanthus has come up in the world these last few years. Mr. Joe A. Lewis had some very unusual and beautiful Auriculas as well as some doubles at rare and beautiful red, purple, and blue shades.

(Continued on next page)
Care of the Carrot

MRS. BEN TORPEN, WOODLAND ACRES, BEAVERTON, OREGON

Now is the time when all Auricula lovers are concerned with repotting, and the care of their plants for next year's bloom.

The use of clean sterile pots is a prime requisite in repotting and cannot be stressed too often. Any simple household disinfectant may be used such as Purex or Clorox and with the aid of a good brush or sponge the required number of pots may be cleaned and sterilized in record time.

At this time, the success of growing depends on what happens to the carrot or the root of the plant. Many times the carrot will thrust itself above the level of the old pot and must be cut off to fit into the new one. When this happens, do not hesitate to cut off the bottom portion in order to bring the plant down to the desired level in the new pot, being sure to sterilize the wound. Flowers of Sulphur or charcoal may be used. If there is any question of pests on the roots a dusting with some good insecticide is advisable after the roots have been thoroughly washed.

If there are offsets to be removed, take them off gently, being sure to sterilize both the carrot of the mother plant and the offset.

Offsets planted around the mother plant root more quickly. They may also be left on the carrot until they form roots of their own. This is the safest method for those who hesitate to take off unrooted offsets.

After the plants have been repotted in the mixture of your choice, water thoroughly, until the water runs from the drainage hole in the bottom of the pot. Drainage must be sharp always, and the care taken to insure this, plus cleanliness and good ventilation for the plants means a good healthy carrot and success in Auricula culture.

Jack Drake writes to say, "Perhaps the lovliest thing in the Nursery just now is a fine batch of about 100 Primula eburnea in full bloom—and carefully protected in a frame. The scent of this Primula is the best of all I think." I do hope that we will get seeds of this marvel, for I can't imagine any flower or any perfume more wonderful than that of Primula alpica variety violacea. We have only one plant in bloom now and it perfumes the air divinely. The variety hunts makes a lovely contrast in color but it does not smell as sweet. I spoke of this to Florence Levy and she said, "The wonderful part of it all is that they are so easy to grow."

Dr. Fletcher writes that they have a new Primula which he is going to describe as P. Rhamzanae "after Rhamzana," who was Ludlow's old servant who accompanied Bill Sykes, one of my former students, who was on the expedition into Nepal. It is a real beauty." I believe that we may be able to get seeds of this new species this fall from either Jack Drake or Will Ingvorsen. We will reprint the description as soon as it is published in England. We have heard that the color is "magenta pink, and that it is a charming plant and will be popular, much like a scalloped-leaved P. rotundifolia to look at."

Next issue will contain a delightful story about Mrs. A. C. U. Berry's complimentary exhibit at the Auricula Show. The January issue will contain an account of a trip taken by Mrs. A. C. U. Berry, Mr. Lew Levy, and the editor, successful and wonderful in that they found three native Primula.

... Even with thirty-two pages there is never quite enough space to print all the news about Primula and the people who grow them.

Show News

Ivie Spencer

Mr. Robert Ewell was in charge of the over-all publicity for the A.P.S. Shows of 1953. He is a man who thinks not on local but rather on national and international lines. It was he who started the correspondence which finally led to our being represented in the New York Show. What he wrote in 1945, when he was president of the A.P.S., is just as true today. "The phenomenal growth and healthy activity of this Society at a time when our efforts are strained in many directions, confirms anew that which we all know—that in the course of human affairs there is no season when we can afford to relinquish our hold on beauty and the pursuits engendering quiet reflection."

Mr. G. Robert Boehmer, Assistant Garden Editor of the Oregon Journal, writes "Members of the American Primrose Society recently staged the nation's first competitive American, all-Auricula, Asiatic show, under the general chairmanship of Mrs. John Karnopp. That it was successful not only can be measured by crowds that attended the one-day event, but by the exceptional number of entries in Garden, Alpine and Show divisions. Auriculas were the outstanding primulas on display, and they were also in the majority, but there were also impressive numbers of fine Asiatic specimens. The large roster of competitors in the Garden Auricula classification indicates a growing interest in this colorful plant. Primrose devotees were especially pleased at the many seedlings, never before exhibited, on display in the Alpine and show divisions. The Sweepstakes Trophy was won by MRS. ORVAL AGEE. Awards were given to MRS. B. E. TORPEN for an Alpine Auricula, MRS. JOHN KARNOPP for P. Forrestii, MRS. ORVAL AGEE, for P. pedemontana, MRS. ALICE M. BETTINGTON, for a leather colored Garden Auricula, and MRS. O. M. BABBITT, for a purple Show Auricula."

Miss Alida Livingston, our New York Editor, and Dr. Forrest E. Kendall were in charge of the plants which had been flown to New York for the A.P.S. display in the International Flower Show in the Grand Central Palace, during the month of March. Mrs. Ben Torpen sent all the plants from her own gardens and they arrived in perfect condition. We have had many memberships as a result of this show and many

*An illustration of a plant of P. Forrestii may be found on page 10.
letters of congratulation. Miss Livingston writes, "... even before the show was set up, standing flat and without accessory material the seven perfect Alpine Auriculas of various colors, the grandiflora roses, the rosy, the baby pink denticle, the Gold Lace, and the multi-colored Julianas composed a lovely design. The colors melted one into another, all we could do was to stand in worshiping attendance, for proportion were as perfect as the colors. Everyone who saw these matchless alpines wanted them and we had to draw lots to see who could be the purchasers. The other Primulas could have been sold many times over and would have made wonderful material for a charity auction."

The earliest Primrose Show in the Northwest this year was held at the Gresham, Oregon fairgrounds, by the American Primrose Society, April 10th, success both by our members and the many thousands who viewed it, in spite of the delayed and spring chilled weather. The showing was non-competitive and was arranged effectively as a natural primrose garden. Mrs. T. W. Blakeney and Mrs. H. A. Hartshorn were co-chairmen. Much of the success was due to the contribution and arrangements of Mrs. Orval Agee, who set up a complete rock garden for the center piece. Mrs. B. O. Snuffer of Bay City, Oregon, had a notable display of Auriculas. The CLARK COUNTY PRIMROSE SOCIETY arranged an attractive plot. Among the most conspicuous efforts were those of Mrs. C. Y. Griffin, assisted by Mrs. C. D. Skibly, who managed a sale table of contributed Primula plant material. This sale was successful beyond any expectations both from a practical viewpoint and because it distributed our Primroses among a larger public.

Inviting woodland paths led visitors through the "Primrose Promenade" of the KIRKLAND, WASHINGTON ANNUAL PRIMROSE SHOW held April 17, 18, and 19th in the Civic Center. Mr. Glen Hunt, prominent landscape designer of Seattle, provided the plans for the Show which were cleverly worked out by members of the East Side Garden Club and the commercial growers. Exhibits were exceptional both in quality and design. Winner of the sweepstakes was MRS. F. H. WALLICK. MRS. P. B. CHARLES received the award for the "best plant in the show."

Whether it's the water, or the climate, Washington primulas are usually rewarding for the loving care given them as evidenced by the TACOMA PRIMROSE SOCIETY's

THIRD ANNUAL SHOW, held April 18th and 19th. The unusually fine floor displays showing primroses in naturalized settings were an outstanding feature. PETER KLEIN took four top awards for "best plant," "rarest plant," "best Julias hybrid," and "best plant in the Cortusoides section." Other high winners were MRS. CARL BARTLETT, Gig Harbor, best polyanthus, MRS. JENKINS, Bremerton, 'best blue polyanthus,' 'best vulgaris (acaulis) polyanthus' and 'best floor display,' MRS. ALEX FOX, 'best plant in the amateur class,' MRS. W. WIEETSCHKE, 'best vulgaris (acaulis) MRS. A. E. TURNER, 'best Show Auricula,' and MRS. F. C. WESTWOOD, 'best arrangement.'

The friendly atmosphere and enthusiastic response of the whole community combined to make the Sixth Annual Primrose Show sponsored by the MT. ANGEL GARDEN SOCIETY, held April 19th, in St. Mary's School, a memorable occasion. The sweepstakes award went to Miss Juliana Delher and was given by the Mt. Angel City Council.

It is to be hoped that next year the show committees in this country and abroad will include a publicity chairman who will provide the A.P.S. Quarterly Staff with a full account of the layout of their shows together with the names of all the principal participants such as Clubs, Trophy Winners, and the names of those who worked on the set-up. Names and pictures should be sent to the Editor as soon as possible so as to be in time for the next Quarterly.

Seed Distribution

Chester K. Strong, Regional Editor and Vice President of the A.P.S. has consented to take on the task of the Seed Exchange. We are so short of personnel in the Portland area that Mr. Strong's acceptance was a great relief; it came just in time to get this report in the Quarterly.

Details of the distribution will be given in the October Quarterly.

All seed donations should be sent directly to:

MR. CHESTER K. STRONG, BOX 126, LOVELAND, COLORADO.

Please do not send seeds or correspondence pertaining to the donation or distribution of seeds to any other address in the Society.

Please turn to the instructions on saving seeds on page 12. We are asking that the seeds sent in be cleaned and named precisely. Mr. Strong will appreciate it if the seeds are sent in as soon as they are ready so that they can be classified for the list of available varieties which will be published in the Quarterly.

Some fair priority system will be worked out, and will probably be concerned with the quality of the donated seeds and the promptness with which they are sent in. Mr. Strong will be glad to receive suggestions which would help to simplify this program.

We are, of course, primarily interested in the seeds of Primula, but if a member has seeds of some of the rarer alpines or companion plants, they will be gratefully accepted.

THE SCOTTISH ROCK GARDEN CLUB

Annual subscription $1.50 personal check or bank draft. Two journals a year. Frequent articles on Primulas. Liberal seed exchange. Seeds of 72 varieties of Primula distributed last year. Write for membership forms and for information to—Major-General D. M. Murray Lyon, Honorable Publicity Manager, 38a Inverleith Place, Edinburgh, 4, Scotland.
SEED HARVEST

Many members will want to save seed from their plants. In the case of Primroses the pods should be picked the day a small hole can be seen in the top of the seed pod. If one waits too long the pod shatters and the harvest is left to nature, if the pods are picked before they ripen many of the seeds will not germinate. Many members hang the seeds in paper or salt sacks in covered sheds where the air may blow through. When the drying process is finished, the cleaning is done first by running the finger around the placenta so that the seed falls out. In spite of all one can do chaff remains. If the seed is put into a dish with a high rim, such as a soup plate, the chaff may be blown out while one shakes the dish gently. At Barnhaven, where many pounds of seed are packaged, the seed machine lies idle while this simple and slow method is used.

If one is trying to raise prime plants it is almost a waste of time to save seed which has not been hand pollinated. We have tested seeds from all over the world and those which were not pollinated by hand seldom produce over two or three plants out of a thousand which we keep for hybridizing purposes. The hand pollinated seeds of well established strains produce plants which take no more care and which are immediately distinguishable for their clarity of color and individual characteristics. A Linda Eickman pink or apricot flame can be seen across the line, and one small bed is worth more than all the thousands of plants from firms who do not hand pollinate. The tall blue Polyanthus from Barnhaven are as large as silver dollars and as blue as our own Crater Lake. The blue vulgaris (acaulis) from Clarks are the loveliest of this form in the whole garden. They shaded from the lightest to the deepest delphinium blue with small light yellow eyes. Mrs. McHenry's "King Midos" is a gold superior to any others I have seen. These wonderful gold Polyanthus have the power to spark up any planting.

If one is very lucky and has an eye for color and infinite patience, a strain can be established so that the crop will come 60-80% true in about six generations.

The garden is expensive and lovely to our eyes. There are still a few of the seedling polyanthus in bloom and our testing beds are showing color. The candelabras have been magnificent, the first to bloom were the japones, then the Bartley Pinks, then the other species and hybrids crowded in with their purples, oranges, and whites. To close the candelabra season, the fine Drake Inshriach Hybrids are a blaze of color. Many are opalescent with a layer of the lightest yellow overlaying the pink, others are a clear large yellow-orange, and one plant is a pure, dark pink. We have planted them everywhere, down by the creek, in the borders, on the hillside, and all are sturdily. The plants which have the benefit of water at the roots are large and the epigone-like stalks have six to nine tiers of blooms. The ones on the hillside are more delicate and just as beautiful although not as large. Over at Hannon Acres there is a bog full of many species and hybrids of this section. We have a beautiful picture of a mass of them blooming among the large jingle-like trees, which we wish that you could see, but unfortunately it is not adaptable to engraving as the fronds of the ferns have obscured the fine lines and contrasts necessary for successful reproduction. The japonicas and pulvulenteras seed themselves and Mrs. Hannon has given thousands of seeds to plants to growers and amateurs alike.

The greenhouse holds hundreds of "hopefuls" mostly rare species and Auricula plants from the finest seeds. Linda Pope is blooming now and so is "Purple Spark" the lovely pubesence which Will Ingwerson has called "Mrs. Berry." Mrs. Berry gave him plants when he was in this country, they were the successful result of her own hybridization. They do well in a well drained pocket in the rock garden and are distinguished by their intense purple color, by their ruggedness, and by their tendency to bloom twice during the spring.

"I am living in a golden dream, today I have received the most perfect Green Edged Show Auricula I have ever seen. I never imagined there were such perfect flowers as my little collection of Auriculas. In spite of all this and much more of the same, I think the real reward of the Primrose Society is not the flowers but the people one gets to know." A.L.

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The Quarterly Staff has prepared this index as a service feature for the readers of Sir Rowland Bissen's book, "The Auricula," published by The Cambridge University Press, 32 E. 57th St., New York 22. $3.75 at all book stores.

We recommend this interesting book for its comprehensive coverage of matters pertaining to the growing of Auriculas.

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Sphagnum Moss
For Growing and Shipping Plants

A few months ago a leaflet from the U.S. Department of Agriculture called "Sphagnum Moss for Seed Germination" was sent to the Editor. At the same time a complaint was received that plants were being sent from a nursery, (not a current advertiser) which were received in poor condition. We were aware that it costs money to send plants with the soil still on the roots, and that there might be a tendency for roots to rot which had to remain too long out of their growing medium in a wet wrapping.

An excerpt from the pamphlet follows, "Excellent growth for an indefinite period had been obtained with plants transplanted in sphagnum and watered occasionally with nutrient solutions. The use of sphagnum is advantageous for growing plants that are to be shipped, because of the light weight of the moss in comparison with soil. It has recently been used extensively for growing plants to be transported by airplane. Plants grown for transportation may be lifted and separated without serious damage to the roots if they have not been standing in the sphagnum for an undue long period. Plants may also be grown in pots of sphagnum and knocked out for shipment; the balls of sphagnum do not shatter as do balls of soil. Plants grown in sphagnum do not appear to have any important disadvantages in comparison with those started in soil when lined out under ordinary garden or nursery conditions in the Tender Zone.*

The plants in the photograph above were raised by Mr. D. G. F. Barton of the Gaybordr Gardens at Royal Oak, British Columbia. He writes, "I cut these plants out of a flat with a hunting knife and the soil and Blue Whale mixture (1/4 sharp sand, 1/4 garden soil, 1/4 peat moss, and 1/4 Blue Whale) adhered to the roots of the plants. I believe one could ship this plants way to any part of the world without much fear of drying out or causing damage to the plant. I did not use compost simply because we have not been on this place long enough to make any. I must say, that even with that mixture, I have never seen such rapid root growth or such healthy deep green foliage in such a short time."
For those who are not able to get Blue Whale, the nutrient impregnated peat, a useful solution may be made by stirring 1 teaspoonful of potassium nitrate (saltpeter) and superphosphate in a gallon of water and applying a quantity sufficient to saturate the moss. A solution containing 2 teaspoonfuls of a 12-12-6 fertilizer mixture per gallon has often been used at the Plant Introduction Garden. A satisfactory solution may also be made by stirring 5 or 6 teaspoonfuls of one of the less concentrated complete garden fertilizers, as a 4-12-4 or a 5-8-6 mixture, in a gallon of water. The insoluble residue that may be expected with these fertilizers should be discarded. Nutrient solutions applied at intervals promote a steady growth of the seedlings and normally are recommended if the seedlings are to be left in sphagnum beyond the cotyledon stage. *

*Leaflet No. 243 U. S. Department of Agriculture

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The Alpine Garden Society

Members of the American Primrose Society would find much of interest in the Quarterly Bulletin of the Alpine Garden Society. The genus PRIMULA is of outstanding importance to all rock gardeners and new introductions (of which there have been several in the last few years) are fully described, usually with photographs.

In earlier volumes there have been numerous articles on European and Asiatic Primulas and the separate numbers are mostly available.

The subscription is one pound per annum, payable on the 1st of January but American Members can, if they find it more convenient, remit $2.80 to Dr. C. R. Worth, Groton, N. Y., one of the American Hon. Secretaries of the Society, who is empowered to issue receipts on the Society’s behalf.

Apart from shows and meetings in which Overseas Members are unable to take part, the Society has recently inaugurated a Seed Exchange in which Overseas Members have certain priority, whilst such Members can utilize the services of the "panel of experts” and are welcomed on the Society’s Continental tours.

Subscriptions should be sent to the Secretary, C. B. Saunders, Husseys, Green Street Green, Farnborough, Kent, or to Dr. Worth as above.

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Folder
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*As pictured on the covers of the 1953 A.P.S. Yearbook.
Dear Friends:

Lovely Pacific Strain Tuberous Begonias may be easily transplanted in full bloom from our Gardens to yours. I would like to show you our beautiful hanging baskets which are a specialty with us. We have companion plants to help fill your bedding needs.

My Primroses were so lovely this year that the only adjective I can think of to express the beauty of their coloring, is "sparkling." I expect to have a good stock of "Crown Pink" this next spring. I do not ship plants so please come to my garden.

Sincerely,

Mrs. O. L. Dunder

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Renmittence, permit, shipping, and postage information on Page 29 Jan. Quarterly

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Says N. F. Rea of Getzum Products

Take the mystery out of your insect control program with CARCO-X. One gallon of CARCO-X makes up into 200 gallons of spray, for CARCO-X is a product that goes further and costs less. Best of all it works 4 ways, as a REPELLENT, a FUNGICIDE, a SOIL TREATMENT and CONTACT INSECTICIDE. CARCO-X is not found under any other brand name.

CARCO-X can be successfully used to control thrips, ants, termites, wire and cutworms, root maggots, carrot worm, tent caterpillars, aphids, red spider, springtails, bulb fly, leaf hoppers, strawberry root weevils and other garden pests.

Every purchaser of CARCO-X receives the FREE 24 page booklet "Debugging Made Easy." Follow directions and CARCO-X will protect your shrubs, bushes and trees from pest attack and you can enjoy a bumper crop from flower and vegetable gardens.

Stock Up Now

CARCO-X is mailed to your home or place of business postpaid for $1.20 a half pint, $1.75 a pint, $2.35 a quart and $6.45 a gallon, plus 3 per cent sales tax for Washington residents. Dealer inquiries are invited.

Address all mail to . . .
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1953 CROP READY IN JULY
Green toned Auriculas
$5.00 Per Package
Green, Grey, and White edged
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Small pk., 50 seeds, Half Price
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853 Byng St. - Victoria, B.C., Can.

Give Them a Helping Hand!
Miller's
Garden Booster Powder
Booster Powder is very helpful to seedling plants because it gives them a balanced diet containing the essential as well as the vital Minor Elements needed for quick, healthy, continued growth: Nitrogen, Phosphate, Potassium, Calcium, Sulfur, Iron, Magnesium, Manganese, Zinc, Boron, Copper, Cobalt, Iodine.
Available in 4 oz., 1 lb., 2 lb., 5 lb., 25 lb., 2 lb. 5 lb., 20 lb.

Headquarters for Hobby Gardeners
ALLEN W. DAVIES, MGR.
EVERYTHING FOR THE HOME GARDENER
Tools, Seeds, Fertilizers, Bulbs and Plants
- BLUE WHALE (all sizes) -- FLICKA DUSTERS
- PORTLAND WHALE
204 S. W. Yamhill St.
Portland 4, Oregon

FOR THE LAND'S SAKE
USE --
Vitalert h is a mineralized, well balanced soil and plant food which contains trace and minor elements. Vitalert h contains no filler—it has an organic base so every oz. is a working oz.

HOW TO USE VITALERT H
4" potted plants use what will stay on a dime, applied once in 3 weeks. Larger plants proportionately more. Rosebushes need 1 heaping Tablespoon twice a year, spring & fall. Lawns, 20-25 lbs. per 1000 sq. ft. 2 or 3 times a year.

WHERE TO BUY--Go to your local garden store, ask for these fine products.
7941 S.E. Johnson Creek Blvd.
Portland, Oregon

“Garford” Seeds from Australia

POLYANTHUS. The results of 18 years of selective breeding from genuine Reinelt stock. Features include a wide range of Blue shades and many unusual tones in Tawny-Golds, Creams and Yellows, Wallflower, Lavender, etc. Individual colours and types in process of selection will be released as they respond. Offered only in a Mixed range of which a good percentage should be Blue.

$1.25 per packet - $5.00 per regular packet - $40.00 per ounce

ICELAND POPPY. The original Giant range of Art Shades. First in R.H.S. Trials 1940 and 1952. $1.00 per packet - $5.00 per ounce.

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SPRAXIAS. Crossed with Streptanthusa Curpa. Seedlings show a high percentage of unusual colours. Giant Blooms $2.00 per packet.

LILIUMS. Inquiry invited for Auratum and Speciosum hybrids.

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“Garrett” 33 Bulwyn Road
CANTERBURY VIC. AUSTRALIA

KEEP GARDEN PESTS OUT THIS EASY WAY
Now is the time to kill the adult STRAW-BERRY ROOT WEevil, the easiest way of all. Use BUG-GETA. The snails and slugs will disappear as a bonus, if you will scatter a few handfuls a week. These pellets have a fatal attraction for these pests and are a life-saver for newly set out primroses. And they save money because they go four times farther than old-fashioned meal-type baits. A few minutes, a few handfuls a week, scatter BUG-GETA!

Keep out most every pest there is with BOTANO deluxe. In its own "pump-action" duster, this all-purpose dust provides easy control against both insects and plant diseases. Just carry it around in your garden basket ready instantly to use whenever pests attack. Dust with BOTANO deluxe.

Keep out weeds from paths, parking strips, brick walks, and driveways with TRIOX. This time-tested arsenical weedicide actually sterilizes the soil and prevents plant growth for months... For broad-leaf weeds in lawns—use WEED-B-GON containing 2, 4-D.

To keep insects out of your garden—load your handy SPRAY-ETTE hose attachment with ISOX Gardon Spray—to keep out plant diseases—load your SPRAY-ETTE with ORTHORIX. Or mix them together for all-purpose pest control.

California Spray Chemical Company
Richmond, California - Elizabeth, New Jersey - Orlando, Florida - Portland, Oregon - Dallas, Texas - Kansas City, Missouri
AURICULA SEED: Grey Edge, Green Edge, Pure Green, Green Hose-in-Hose, Jack in the Green, and Fancy.

In mixture only, per package............$5.00

This seed is selected from the Parent Plants of those shown at the Kirkland Show this Spring. Seed available about July 15th.

JOE A. LEWIS
1325 W. 4th Avenue
Olympia, Wash.

The Permanent Garden & Color in the Garden
By NORMAN TAYLOR

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$2.00 EACH

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Our collection of British (imported) and American ferns is not equalled by any other commercial grower in this country. Write for complete catalogue of ferns, choice rock plants, dwarf shrubs, iris, and Primula (Garden Auriculas, Sjieboldii, Juliae, etc.) We are proud of the way we pack our plants for shipment.

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and
Warm Laughter

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$6.00 PER DOZEN

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Yellow, Blue, Gold, and Mixed Are Ready
$2.00 PER DOZEN

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Kay (blue) ...........$1.00
Lady Greer (cream colored "poly" type) ...........1.00
Dr. Van Velutin (red) ...........1.00
Wanda (purple) ...........50

*Angela (pure white) ...........$1.50
Nettie Gale (white flushed pink) ....... .75
Snow Baby (white poly) ...........1.00
Dorothy (yellow poly) ...........1.00

*Torpen origination
Blue Whale

is

Sphagnum Moss

Enriched with Whale Soluble

PLANT YOUR BULBS
POT YOUR PLANTS
SET YOUR WINDOW BOXES

Mix your flower and vegetable seed plots with BLUE WHALE. No further feeding is required.

No More Laborious and Unpleasant Working with Barnyard Manures

BLUE WHALE is a complete compost free from weeds and disease

A Single-Simple-Step
To All Phases of Gardening and Fine Lawns

There is no lasting benefit in any contribution to the soil which does not eventually become Humus. A million tons of artificial will not contribute one pound of Humus to the soil.

BLUE WHALE is 100% potential HUMUS. The Whale Soluble and the Moss working together to create a continuing fertility and giving to the Flower or Vegetable a vigor and health not obtainable with inorganics.

• In bulb planting, place a generous handful of the BLUE WHALE product directly under the bulb — Will not burn.
• Place a handful of BLUE WHALE around each plant root of all Spring Flowers. With Chrysanthemum cuttings, Strawberry and Tomato plants — set the cuttings or plants right in the material.
• BLUE WHALE being entirely organic already decomposed and immediately available to the plant creates a condition which to a large extent gives a freedom from weeds, pests and disease.
• For a good velvet lawn top dress with BLUE WHALE — instructions on bag.
• BLUE WHALE IS FULLY ENRICHED — ODORLESS — WILL NOT BURN.

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