CONTENTS

Notes on the Sections of the Genus Primula (Part Three)
Donald Neil O'Connell - - - - - - 17

Capt. Ward's Impending Expedition and a Brief Sketch
of Plant Hunters of the Past, Florence Levy - - 22

Primula Seeds for Members - - - - - - 26

Primulas Listed in Capt. Kingdon Ward’s Books - - 27

Review of the Sixth Annual Show - - - - - - 28

Advertising - - - - - - - - - - 40

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NOTES ON THE SECTIONS OF THE GENUS PRIMULA

Donald Neil O'Connell

PART THREE

Section Souliei. A Section of seven species confined to the Western Provinces of China, with extensions into the adjacent portions of Tibet and the Himalayas. It bears a general resemblance to the Farinosae, though quite distinct from the other Sections of the genus. It differs mainly from the Farinosae in the more membranous leaves, with long and distinct petioles, and in the rather one-sided, slightly drooping flower clusters. The leaf-edges in most of the species are markedly toothed or cut, the upper leaf-surfaces rough to the touch. Much variation is to be found from species to species and even within certain species as to amount of farina present. The farina may be absent, slight, or very dense; it is white or pale yellow and found on the under surface of the leaf. A few species have been in brief cultivation in English gardens. None are in cultivation here.

P. Aliciae Taylor. Representative of the Section, this species was introduced from S.E. Tibet in 1938 by Ludlow, Sheriff, and Taylor and has been in cultivation in England as recently as 1941. The leaves, from 1 to 1½ inches in length surround the basal rootstock, which is short and normally bears the protecting remains of the last season's withered leaves. The leaf-blade is broad, obovate to spatulate, heavily toothed, the upper surface rough, the lower surface covered with pale yellow farina, and borne on short, winged petioles. The scape rises from 2 to 7 inches above the foliage and bears a close, rather one-sided cluster of pale lavender to deep violet-blue flowers with a densely white-farinhose eye, the tube dark purple. The corolla lobes are deeply cut, the pedicels and the upper portion of the scape farinose.

Section Denticulata. A Section of alpine plants extending through the Himalayas from Tibet to Northern Burma, Section Denticulata is intermediate between the Sections Farinosae and Capitatae, differing from the former in its round, tight flower-heads, the individual florets on very short pedicels, and from the latter in its erect florets, which in the Capitatae are pendant. There are some twenty species and subspecies, all bearing the facies of P. denticulata Sm. The small individual florets are borne erectly on very short, in some cases nearly absent pedicels, forming rather dense rounded heads of bloom. The species range in color from pink through lavender to lavender-purple and near blue shades, occasionally white. The leaves are often toothed or notched and may be pubescent or farinose. The scape is usually farinose, as well as the pedicels and flower bracts. The leaf texture is firm—though not.
thick, the foliage arranged in a compact tuft. The habit is not rhizomaceous. **P. denticulata** is one of the commonest of the Asiatic Primulas of gardens, thriving in a cool, damp situation with light to moderate shade. Increase is by division of the clumps which form from happily-situated plants or by seed, which is generously set and germinated with ease. Two species are in cultivation:

**P. alta** Balf.f. et Forrest subsp. **Lilmoica** Craib. A very desirable species closely resembling **P. denticulata**, though larger and more refined. The leaves are without farina, light gray-green, toothed, and covered with fine, small hairs. The scape is from 6 to 12 inches or better, carrying many-flowered heads of light lavender-blue flowers, pale yellow-eyed.

**P. denticulata** Sm. An old and reliable species, **P. denticulata** bears a round, tight-clustered head of small, distinctly-eyed flowers on an 8–10 inch scape, the upper portion of which is lightly farinose. The leaves are finely and evenly toothed at the edge, farinose, and of a medium green, arranged in a tuft. The color forms most commonly met in gardens are lilac to lavender or white, but rose, pink, red-purple, and lavender-blue forms have been developed in the past—though they seem to have disappeared from our gardens now—and certainly could be again. No hybrids have been made in this Section, and the various forms offered in commerce are all of one species. **P. cachemiriana** Munro (the original spelling, generally listed as **P. cashmeriana** or **P. denticulata cashmeriana** or even under the misleading catch-all Cashmeriana-Denticulata Hybrids) is merely a garden form of **P. denticulata**, at best. It is not known in the wild, is not a separate species, is not a separate variety, and very often is indistinguishable from **P. denticulata**.

**Section Minutissimae.** A Section of untameable alpine species, the Minutissimae are confined to the Himalayas and adjoining regions of Southern and South-Eastern Tibet. The twenty-eight species and subspecies are all minute and, though the Section is somewhat heterogeneous, relatively distinct from the other Sections of the genus, the closest affiliation being between certain of the farinose species and the dwarf species of the Farinosae. In general growth habit, the Minutissimae form either small-leaved, prostrate mats or tiny rosette-clusters. There is little or no rhizomaceous development, and the individual plants are therefore characteristically short-lived. In compensation for this shortcoming, however, the plants are often stoloniferous, forming low-spreading colonies apparently content in their communal longevity. The leaf-characteristics of the species are variable-toothed, serrate, or entire leaves, white-farinose, yellow-farinose, or farinose leaves, long-petioled, short-petioled, or nearly sessile leaves being found. Typically, the flowers are borne singly, although two- or three-flowered umbels occur. The scape is very short to absent, the pedicels almost lacking. The corolla lobes are invariably deeply cut or notched. The tube is, in most cases, very long and often farinose. In some of the species, the throat is constricted by a dense pompon of hairs; these species comprise the Sub-Section Bella—formerly accorded sectional status. The remaining species comprise the Sub-Section Eu-minutissimae. The color range of the various species is from purplish-pink through violet, blue-violet, and reddish-purple, with white forms not uncommon; the eye is well-developed and of a contrasting yellow, orange, or chartreuse. A few species have been in hesitant cultivation, and one species is to be found in the seed lists of Indian collectors from time to time:

**P. muscoides** Hook.f. Sub-Section Eu-Minutissimae. A not uncommon plant of the high-alpine regions of Sikkim, this is probably the smallest member of the genus. The sessile, farinose leaves, somewhat serratate at the apex, form dense tuftlets, at most three-eighths of an inch high, with bases thickening into short rhizomes protectedly covered with tiny withered leaves. The scape, at flowering, is absent, and the solitary flowers, mauve or violet with a yellow or white eye, are borne on yellow-farinose pedicels about 1/32 of an inch long. The corolla lobes are deeply cut, the tube white, the throat showing white hairs at the mouth. At fruiting time, the scape elongates above the lower tufts, reaching about three-eighths of an inch. This little fellow is found on open scree and rocky hill-sides, often in association with mosses, and is sure to prove unbelievably difficult in cultivation. However, if it can be obtained and if the Indian listings prove true to name, it should be worth any efforts to capture.

**Section Candelabra.** One of the few well-represented Sections in our gardens, twelve of the twenty-nine species comprising the Section Candelabra are in cultivation in this country. The Section finds its center of distribution in the alpine streams and marshes of South Western China, Yunnan and Szechwan in particular, extending into the adjacent alpine regions of Burma and South Eastern Tibet. It is but sparsely represented in the Himalayas. One outlyer, the orange-yellow flowered **P. imperialis**, is to be found in the mountains of Java, while **PP. japonica** and **Miyabenna** delineate the Eastern range limits. Morphologically, the member species form a homogenous group, recognizably distinct from the other Sections of the genus; their marked homogeneity is borne out cytologically as well and no doubt accounts in good part for the unusual number of hybrids which have been produced in this group.

These are among the largest members of the genus, well-grown specimens attaining heights of two to three feet and spreading in time to form clumps several feet in diameter. The most striking diagnostic feature of the Section is the manner of inflorescence, the flowers being carried in superposed umbels along the scape. Similar inflorescences are occasionally found on robust specimens in other Sections—particularly among the Cortusoides—but are there the exception; whereas, save on very young or weak plants, they are almost invariable among the Candelabras. The scapes and pedicels are often farinose. The leaves are in most cases entirely farinose, although bearing farinipotent glands. The leaves, both in texture and in shape, recall those of the Vernalae species; they are strongly midribbed, more-or-less rugose, and oblanceolate to obovate in shape. The leaf-edges are often toothed. The roots
are long and very thick, spreading downward from the short, stout rhizome from which the leaves are arranged in a spreading tuft. The flower scape is terminal and surrounded at the base with renewal buds at the axils of the leaves. As the scape begins development with the coming of the warm spring rains, these renewal buds begin to expand and unfold. By flowering time, they have attained considerable size. As the fruit ripens during the summer, the scape rots off at the base and growth is continued by the renewal buds in the surrounding leaf-axils, which proceed to send out roots. By fall, these renewal buds have reached their maximum leaf development and have formed substantial root systems. The leaves—except in a few species, such as P. Poissonii—rot off at the base with the coming of winter, and the plant enters a period of dormancy until reawakened by the spring rains, at which time these now-dormant axillary buds will, in turn, send up scapes and continue the growth cycle. If many scapes have been sent up and pollination has been well accomplished, the formation of the ripe fruits may demand so much of the available nourishment of the plant that the developing renewal buds are weakened and, failing to sufficiently mature before the coming of the winter temperature drop and the heavy rains of late autumn, succumb to the natural basal rotting of the summer leaves. It is this competition between free-seeding and the necessary development of the axillary renewal buds which causes some of the weaker species to simulate a biennial growth cycle. However, all these species are true perennials and will behave as such if prevented from setting seed and protected from such unnecessary perils as the drip of overhanging trees. P. Cockburniana, the most notorious psuedo-biennial of the Section, will also benefit by disbudding at its first flowering from seed.

The Candelabras have taken kindly to our gardens, and their cultural demands are few. The prime requisite to good plants is constant moisture at the roots during the summer growth season. They prefer light shade and a well-drained, acid soil. Being strong feeders, they respond favorably to a rich soil, but over-fertilization—as with all Primulas—will cause weak, poor-textured growth and will shorten the life of the plant. Division of the clump affords ready propagation of particular clones, but seed-production is so generous and germination so ready that seed propagation is still to be preferred. Some propagators have reported good results from root cuttings taken after flowering and placed in a medium of one-half sharp propagating sand and one-half sterilized peat. The root sections are generally cut into one- to two-inch lengths and placed level with the surface of the rooting medium, or very lightly covered with pure sand. Care should be taken when making the cuttings that the roots be placed top upmost, as they grow, and not be turned upside down. Watering with a 5-6% solution of Chlorox or dipping in Semesan or some similar product will prevent rotting. This method of propagation seems difficult, at best, and further experimentation with it is much to be desired. Some of the species lend themselves to further methods of propagation, and these will be taken up under those species.

The species in cultivation in American gardens at this time are:

- **P. anisodora** Balf.f. One of the most striking species of the Section. It was discovered by George Forrest in Yunnan as recently as 1913 and first flowered in English gardens three years later from collected seed. The leaves are obovate, up to ten inches in length, marginally toothed, and borne on very broadly-winged petioles. The scape rises from one to two feet, carrying 8-10-flowered umbels of nodding black-purple flowers, with greenish eyes, of good size and giving off the scent of anise. **P. anisodora** prefers a very moist situation and tends to be short-lived if allowed to over-seed itself.

- **P. aurantiaca** W.W.Sm. Introduced into cultivation by Forrest in 1923. **P. aurantiaca** has proven of easy cultivation and is now to be found in many gardens. It is the smallest member of the Section in cultivation, rarely exceeding ten inches in height. The obovate to oblong scapes, very narrow at the base, gnawed and toothed at the edges, are smooth on the upper surface and slightly hairy below, six to eight inches in length. From the leaf-rosettes rise farinose, red-stained scapes bearing tiers of rich red-orange flowers, the calyx and pedicels red-stained. The topmost tier is often replaced with a tuft of small leaves, which may be layered by bending the stem to the ground and fixing it tightly with a small wire or may be rooted as a cutting. However, seed propagation is to be preferred, as it generally gives stronger plants.

- **P. Beesiana** Forrest. Introduced by the firm of Bees Ltd. from seed sent from the wild by Forrest in 1908. Leaves obovate to ovate-lanceolate, with a lilac- or flesh-colored midrib, 6-9 inches at flowering, increasing in length afterwards, sharply attenuate at the base, irregularly toothed at the margins, with round tips. The many-flowered tiers are borne on stout scapes, mealy at the nodes and up to two feet or better in height. The flowers are of a strong rose-carmine or magenta color, with yellow eyes and orange tubes. A white-flowered variety, **P. Beesiana** Forrest var. *leucantha* (Balf.f. et Forrest) Fletcher, is known from S.W. Szechwan though not, apparently, in cultivation. This is one of the most prolific species of the Section and has been much used in hybridization with **PP. Bulleyana and pulverulenta**, to both of which it bears a close affinity.

- **P. Bulleyana** Forrest. Found in alpine meadows of Yunnan by Forrest, this species is named in commemoration of Mr. A. K. Bulley, who first flowered and introduced it into cultivation in 1909. The large, red-midribbed leaves, ovate to ovate-lanceolate, sharply attenuate at the base, and irregularly toothed at the margins, are 4-12 inches long. The stout scape, up to two and a half feet tall, is farnose at the nodes and bears several many-flowered whorls of deep yellow-orange flowers, overlaid red at the back. The buds are red-stained. This is one of the most beautiful and effective species in the genus and has been of great value to the hybridizer.

- **P. burmanica** Balf.f. et Ward. A very fine species from the moist forests and meadows of Yunnan, discovered in 1914 by Kingdom Ward. The large leaves are up to a foot in length, oblong-lanceolate, rounded at the tip, smooth, gnawed and toothed at the margins much after the manner...
CAPT. WARD’S IMPELLING EXPEDITION and a Brief Sketch of PLANT HUNTERS OF THE PAST

Florence Levy

F. Kingdon Ward is planning another trip into upper Burma in the spring of 1948. The announcement made by the American Rhododendron Society, under whose auspices the expedition is to be made, allows all interested horticulturists to participate, and since Capt. Ward has devoted himself as much to the collection of Primulas as Rhododendrons—two of the major genera in that part of Asia—the proposed trip is of particular interest to members of the American Primrose Society. Unexplored alpine regions are to be tapped and there is no reason to doubt that a great deal of valuable unknown material awaits his hand. Most of our best behaved and most beautiful Primulas have average no more than 35 years in cultivation. Shares are being offered to the individual at $25 each and to societies and garden clubs at $50 each, shareholders to receive their proportionate share of seeds or plant material collected. The application form lists the following genera which is to be checked according to personal interest: Rhododendron, Primula, Incarvillea, Iris, Camellia, Meconopsis, Anemone, Orchidaceae, Magnolia, Gentiana, Lilium, Amaryllidaceae, miscellaneous alpines and miscellaneous trees and shrubs. The Primrose Society has subscribed two shares and any society, club or individual wishing to participate or to acquire further information may write John G. Bacher, Chairman, Expedition Committee, The American Rhododendron Society, Box 8828, Portland 7, Oregon.

The announcement states that a minimum period of 12 months will be spent in the field and the cost of equipment, food, etc., required to carry the collector through hundreds of miles of virgin country must be assured prior to Capt. Ward’s departure. Carriers, political demands of native headmen and the assistance of local populations must be satisfied as well. The Rhododendron Society has been offered the assistance of the Royal Botanic Gardens at Kew and Edinburgh where botanical authorities will identify, describe and classify all collected plant material. The distribution of seeds and herbarium specimens collected will be undertaken by a scientific institution in America.

Nothing could better acquaint us with the duties of a collector than Ward’s own words found in the outset of his Romance of Plant Hunting: “An important duty of the plant hunter is that of making an herbarium; he should always, if possible, collect dried material at least of those species of which he intends to take seed. If the collector knows his flora fairly well, and has a shrewd idea of a good plant; and if, further, he can describe his plant in botanical jargon, it should, theoretically, be possible to identify it from that alone (if previously known), or to name it, if new to western science. In the second place the material sent home by our modern commercialized collector is so enormous that it is a matter, not of months, but of years before it can be sifted, catalogued and described. The herbarium material will, of course, be greatly in excess of the seeds, since every interesting plant met with by the collector will be added to his collection; whereas seed will be collected only of those plants which hold out hopes of being either useful or ornamental. In the third place the members of a horticultural syndicate, or a big nursery firm, or whoever it is finances the collector, are not themselves interested in dried plants. The corpses are gladly bequeathed to the herbaria attached to our great centres of botanical lore—Kew, Edinburgh, London, or Cambridge; and in the dungeons of those feudal institutions are held the necessary inquests for purposes of identification. That takes time. They cannot identify a thousand species of plants from the interior of Asia offhand... In short, they have other fish to fry, and the describing and naming of new species is often the hobby of some
overworked enthusiast, who does it in his spare time with no thought of extra remuneration. If the collector can himself name and describe his own plants so much the better. . . . The collector then amasses an herbarium as he goes along. The collecting and drying of specimens is an art in itself."

The collector, of course, must rely in great part upon native food. Undoubtedly he takes his own tea for the tea found there must be a far cry from Liptons. Ward says that the first choices of a limited purse are jam, Worcestershire sauce and a case of whiskey as the first two make any pulp palatable and the latter is antisepic.

A base camp is set up from which operations are conducted, some hopeless, some fruitful and often uncomfortable for much of the work must be done under the full lash of the monsoon. Only one saturated with a long saturation could write thus, "The jungle absorbs water like a sponge; but there's always more, and more, and more. Then at last the water oozes out, and spills over. The mountain scuppers fill and overflow, and the whisper of the beck grows to a whimper and the whimper to a whine. Louder and more stentorian grows the voice of the waters; and still the rain continues. Despite all precautions, the camp gradually becomes a quagmire with mud everywhere, inside and out; and our clothes are perpetually damp."

Capt. Ward is the last of the great plant hunters of this century and has spent at least three decades of that time following his oriental Lorelei to the enrichment of our botanical sciences, gardens and libraries. Other great men in the field were the beloved Farrer, Forrest, Purdom and Wilson, recipient of the Victoria Medal of Honor. Of these men Farrer, Ward and E. H. (China) Wilson are the best known because of their writings, but few know of Purdom and Forrest who failed to record their explorations (due to modesty it is said) in book form, but confided their statements to reports.

Purdom continued Wilson's Work for Veitch & Son—an enterprising English firm situated at Chelsea which was responsible for introducing the then new Primula world of China to the western countries—when Wilson began collecting for the Arnold Arboretum. Each plant hunter had his particular stamping grounds, Wilson, and Purdom in his turn, concentrating their attentions upon Kansu and Szechwan, the two western provinces which, with Yunnan to the south, bound eastern Tibet. Farrer accompanied Purdom on at least one of these trips and his "On the Eaves of the World" takes you through mud, dust and scrub over interminable miles every step of the way from Peking across country by whatever mode of local travel could be managed. Some of the disguises and tricks employed to gain entrance to the brigand-guarded, forbidden and forbidding Tibetan country for the collection of material makes exciting reading which often misses a disastrous ending only by a narrow margin.

Wilson made two expeditions for Veitch, one in 1899 and the other in 1903. He worked Chinese territory again in 1907 and 1910 for the Arnold Arboretum, and Purdom and Farrer were in during 1913 and 1914, forced to a longer stay than originally intended by the beginning of the war, if I remember correctly. Wilson next went into Japan in 1914, then to Korea and Formosa in 1917 and his seventh and last expedition (the last five for the Arnold Arboretum) to South Africa, Australia, India, New Zealand and Tasmania in 1920.

Wilson brought out Primulas Cockburniana—a great favorite of his, pulverulenta which he called the silverdust Primrose, Veitchii, vittata and Wilsoni. In 1903 he discovered the Regal Lily in a semi-arid eastern Tibetan valley through which flows the turbulent Min River. There it resided by the tens of thousands, blooming in June high on the mountain sides and in rock crevices along the water's edge until almost a decade later when he went back to bring it out. It was on this journey that Wilson met with a crippling accident. A rock slide caught his sedan chair carrying him down the mountain breaking a leg. After regaining the extremely narrow trail a mule train approaching from the opposite direction made it necessary for him to lie in the trail and hope the mules would miss him as they stepped over. After passing, the muleteers returned to help reorganize his party but before medical aid could be reached several days had passed and the leg had begun to set causing it to be shorter than normal. Wilson was killed in the '30's, I believe, in an automobile accident in Boston. His daughter's middle name is Primrose.

Farrer was never robust, suffering from some sort of throat infection which necessitated tutoring at home until time to enter the University. Yet he managed those long and fatiguing trips to the European and Asiatic Alps. E. H. M. Cox has penned many vignettes of Farrer, one of him standing absorbed in the contemplation of a distant alpine slope, the inevitable binoculars around his neck, tieless, collarless, a faded topee on his head, with hose sagging below his khaki shorts and clinging to his ankles—a human and loveable figure. Farrer died alone in the wilds of Upper Burma, October 19, 1920, and is buried there near Fort Hertz.

George Forrest began collecting for Mr. A. K. Bulley, which firm later became Bees, Ltd., in northwestern Yunnan and adjacent territory, and later, around 1913, for J. C. Williams, esq., of Caerhays Castle. He followed in the tracks of the missionaries of the French Catholic Mission from Tali up the Mekong-Salween and Mekong-Yangtze Divides and tapped a region containing some of the best Primulas we grow, Beesiana, Bulleyana, helodoxa, lichiangensis, Malaccoides coming to mind. Forrest's notes and reports were uncommonly well written and it is a pity he did not attempt a larger work. Speaking of the Lichiang Range he says it is "cleft in two for fully half its breadth by a stupendous gorge, the upper end of which is formed by a series of precipices falling
from the extreme height of the main peak to 10,000 or 11,000 feet. The entrance to the gorge, about a mile and a half in breadth, is flanked by cliffs 3,000 to 4,000 feet sheer. In length it is about six miles. The center of the gorge is occupied by a snow-fed torrent, of milky whiteness from the lime carried in solution. The floor of the valley is clothed by forests of conifers in which, and by the stream, are Loniceras, Sorbus, Berberis, Deutzia, Cotoneaster, Philadelphus, Hydrangea and a few Rhododendron. On the higher alpine meadows, from the summits of the cliffs to the verge of the snows, is an indescribable wealth of bloom, the color scheme changing from month to month as the seasons advance. Most of the species being gregarious, absolute sheets and carpets of color are the result. Of Primulas alone, over forty find their home there.

Forrest, unlike Farrer, was robust but like him died in Asia on a collecting trip and, if I recall the circumstances correctly, as he was shooting pheasants. This was in 1932 at the age of 59.

Capt. Ward was in Yunnan renewing explorations for Bees, Ltd. at the same time Forrest was there around 1913. It was Ward who brought in Primulas Florindae, microdonta and burmanica to name a few of the best Primulas in cultivation today. In the past Ward has travelled to his territory by way of the Irrawaddy River, which traverses almost the entire length of Burma, and now he is ready to return to those earlier scenes, trails and smells where the summer rain is constant, and the pagoda bells tinkle through the mist in the south; and to the north where Tibetan priests twirl their prayer wheels as they pace their parapets and recite over and over again the age-old prayer “All hail the jewel in the lotus.”

PRIMULA SEEDS FOR MEMBERS

Mrs. Chester Cox of Salem has sent in a good strain of P. pulverulenta and Mrs. J. Robt. Crismon, Greensboro, North Carolina has forwarded to the Secretary seed of Bulleyana Hybrids (Bulleyana X Beesiana) in shades of dark rose and light pink. P. japonica Etna and P. pulverulenta have been received from Mrs. R. E. Myrick of Battle Ground, Wn. The Society is grateful to these members and thanks them for the pleasure they are offering other members. Mrs. Myrick’s letter to the Sec’y states in part, “Enclosed herewith are seed of P. japonica Etna and P. pulverulenta. These seed came from plants which in turn came from the seed which you sent me in July of 1945. It is pleasant indeed to be able to make it possible for fellow members of the Society to enjoy the process of growing these beautiful plants from seed collected from plants I have grown and I am deeply appreciative of the Society’s plan of sending out seed to members for it has brought a number of Primulas into my garden sooner than they might otherwise have gotten there.”

Perhaps there are members who have seed in small quantity of other species and if so, do send it in to the Secretary, Mrs. S. R. Smith, Route 16, Box 102, Portland 2, Ore. no matter how little. It can be pooled, and any adequate supply offered separately, the lesser amounts in mixtures.

Seeds are available to all members in good standing upon receipt of request and self-addressed, stamped envelope by the Corresponding Secretary.

AMERICAN PRIMROSE SOCIETY

PRIMULAS LISTED IN CAPT. F. KINGDON WARD’S BOOKS

As an appendix to her article “Hunting for Primulas with Capt. F. Kingdon Ward” which appeared in the July and October issues (1945), Caroline Morse Lord here lists the Primulas described in Capt. Ward’s books:

“Plant Hunter’s Paradise”

Primula eucyclia
concholobaa
Primula cyanantha
sikkimensis
(These are in cultivation; many that were collected are unnamed.)

Primula bella
llichiangensis
Primula septemloba
sikkimensis
Primula sonchifolia
sino-Listeri var.
llichiangensis

“Land of the Blue Poppy”

Primula Aglenianavar. atrocroceaa
Primula deldensia
sikkimensis
Primula premantha
rhodochroaa
var. thearosapinutatoru
alta
falcifolia
feaa
var. involucrataWardii
Florideas
Genesterianavermcosavittata
Wardii

“Plant Hunting on the Edge of the World”

Primula amabilis
anisidora
Primula Elwesiana
Farreri
Primula pulvinata
redolens
anapolita
Forrestii
rigida
atrocutubata
fragilis
Bessiana
Franchettii
duvalia
gentianoides
bella
Giraldiana
brevifolia
Heirici
bullata
involucrata
bulleyana
Lady Moore
callianthathabellabrevifoliabullata
cernea
Heirici
chrysoa
involucrata
Chickburniana
Wardii
Cockburniana
Wardii
conica
Wardii
Corayana
Cockburniana
Delavayi
Chungensi
Deltavai
densa
involucrata
Dickena
physalis
dryadifolia
pulchella
Dubernardiana
pseudosikkimensi
efrusa
Dubernardiana
pulchelloides
Effrusa
pulverulenta

“Romance of Plant Hunting”

Primula eucyclia
concholobaa
Primula elwesiana
Farreri
Primula pulvinata
redolens
"altapinutatorulichiangensis
anapolitaiWardii
anisidora
Forrestii
anapolitamalacoides
atrocutubata
fragilis
Bessiana
sikkimensis
bella
sino-Listeri
brevifolia
rubra
bullata
sikkimensis
corayana
Florideas
dublinia
Heirici
Delavayi
involucrata
Chickburniana
polyphylax
Cockburniana
polyphylax
Dickena
physalis
dryadifolia
pulchella
Dubernardiana
pseudosikkimensi
efrusa
Dubernardiana
pulchelloides
Effrusa
pulverulenta

Capt. Ward’s books are unfortunately out of print but many libraries circulate copies.
REVIEWS OF THE 6th ANNUAL SHOW
April 9th and 10th, Masonic Temple, Portland

With over twice as many entries as last year practically filling the
ten thousand square feet comprising the sunken ballroom of the Masonic
Temple with the finest specimen plants and displays to date, the Society's
6th Annual Show was an event of such beauty and proportion as to be a
goal toward which to work in the future. It was an elucidation not only
of spring's early loveliness but of the perennial renewal of life's vital
force which Primroses in their constancy, purity and spiritual essence
have always symbolized.

Weather conditions made it largely a Polyanthus show with a good
percentage of Julianas, Garden Auriculas and the earlier Asiatic Prim-
ulas. Double and single Primroses were noticeably few due to the ex-
cessive and unreasonable heat and drudgery during most of March. Division
2 for specimen Polyanthus in pots and the Polyanthus in Division 12,
grown by the exhibitor from seed, were of all sizes and colors. They
ranged from modest, mammoth to mastodon and captured the entire spectrum
with additions. Shades, tints and overtones of blue, purple, violet,
cold and warm pinks, rose, reds from vermilion to maroon, yellow,
ore, apricot, the bronze, tans and unclassified pastels indescribable in
their delicate nuances. Particularly outstanding in the seedling Polya-
anthus were a purple self with the very small star typical of the named
variety Cowichan with the same wiry, black stem exhibited by Mrs. H. P.
Goss of Bremerton and an apricot-salmon shown by Mrs. S. R. Smith.
Division 11, Best Display any one variety, seven plants in a box, one color
and assorted colors, had in collection some of the most beautiful Poly-
anthus in form and color ever seen. Very strongly represented, it brought
to mind a quotation from the Royal Horticultural Society's Rules for
Judging which the Society's Rules and Classification carries: "There is
more honor in exhibiting well in a strongly contested class and losing,
than in winning a prize with weak products in a class in which there is
little or no opposition."

The section for Gold laced Polyanthus was exceptionally well filled
and although not yet up to florists' standards, showed a decided trend
toward it in form and lacing of florets. Division 4 accommodating plants
with both Polyanthus and Acaulis habits of bloom, Primrose Polyanthus,
was well filled with fine colors, one a brilliant rose being especially good.

Those devoted to the dainty Julianas showed unamed seedlings
as well as named varieties filling all eight classes: blue, white, pink, rose
shades, yellow, red shades, lavender and orchid, purple. Popularity of
the Julies and interest in creating new varieties have increased rapidly
in the last few years and by the time the 7th show opens next April there
will undoubtedly be new and exciting miniatures for a maiden exhibition.

Mid-April is usually too early for Garden Auriculas but the advanced
season brought them on full force in time for the show. Like Garden
Polyanths, Auriculas are marvels of color, texture and depth with a
fragrance transporting in its intangible and haunting sweetness. There
were blues, both light and dark, rose shades, yellow, leather-coats, light
and dark browns—the hair shades of several centuries past—red, rust,
lavenders, purples and unclassified pastels. No Alpine and no Show Aur-
iculas were entered in competition this year. With the imminent matur-
ing of plants from imported seed which members have been carefully
"nourishing up" these past two years the 7th show will probably see the
rounding out and final completion of its schedule. Although classical
Auriculas were lacking the English influence was not as there appeared
to be one or two instances of disbudding which resulted in umbels of
wonderful symmetry and kingy florets. Perhaps this is the first dis-
budding practiced on Garden Auriculas since the 17th and early 18th cen-
turies and has given these members a bit of experience in this direction
when the real thing presents itself for grooming.

The Show and Alpine Auriculas were confined to Mrs. A. C. U. Berry's
complimentary exhibit which always attracts crowds. Particularly no-
ticeable was the fact that it was the men who hung over the plants longest
but Edged Auriculas exercise a genuine fascination for everyone. Perhaps
it is as Sitwell says in his "Old Fashioned Flowers" that "The effect of
this flower is to be compared to that slight disintegration of the senses
when features or limbs of a ravishing loveliness are seen. A perfection
of physical beauty produces this bewilderment and wonder. It is incred-
able and cannot be believed. Such then, akin to the sensation of falling
in love, must be our introduction to the Stage Auricula." We heard men
high in the international horticultural world talk about "secret Irish
sources" of seed—always a tantalizing topic—as they watched Mrs.
Berry's Auriculas and the prospects of keen competition seemed good.

In addition to the green and grey edged, the selfs and fancies in Mrs.
Berry's exhibit, were the Alpine Auriculas. Here is another wonderment
of nature guided to perfection by human hands. For many, the Alpine
Auricula possesses almost a hypnotic power which draws the observer
irresistibly and helplessly into the depths of its intense coloring. It has
its counterpart outside the floral kingdom in some of the mountain lakes
such as one we have in Oregon, a lake, set in an ancient crater, of in-
credible blueness and enormous depth remaining a deep ultramarine on
cloudy days as well as clear. Scientists have yet to explain the unbelie-
vably magnificent coloring of the lake as they have that of the
Alpine Auricula.

Mrs. Berry's display also included the true P. amoena—a purple Ox-
lip native to the Caucasus and almost extinct away from its habitat—
a number of Pubescens and other European alpine Primulas. Distinctly
rare was a large green In-hose Auricula, a materialization of that
million-to-one chance.

Unusual plants exhibited by members on the Rarity and Oddity table
included green Polyanthus and a double crimson Auricula. One of the
finest things in the show was a white self, miniature Polyanthus raised
by Ralph Balcom of Seattle. Of perfect form, it bore a full, symmetrical
umbel of moderate-sized, pure white blooms without golden center, if
memory serves, on a slender, wiry, black scape above modified foliage.
Of garden origin but showing clearly its Juliana and Polyanthus blood—
blossoms almost identical with those of Julian Schneekissen—it was perfection personified.

Cooperation of garden clubs out of the city as well as in the city was extremely gratifying with lively competition the result. Some of the finest horticultural specimens and displays were cooperatively executed by club members as were the large number of arrangements which graced the north balcony.

Show plans arranged for the display of all amateur and garden club horticultural entries as well as complimentary exhibits on tables placed in convenient design on the floor of the ballroom proper. Professional growers were given their choice of space along the north and south walls, exhibits built on the floor. Beginning at the north staircase Barnhaven Gardens showed massed Garden Auriculas banked by maidenhair fern and edged with P. rosea grandiflora and P. X. Juliana Dorothy; Land's Nursery, a very fine planting of assorted Garden Auriculas and Polyanthus; Saxton & Wilson, lavender, white, rose and pink P. Sieboldii in a setting of ferns and white Dicentra "Sweetheart"; Helen's Primrose Garden, a noteworthy display of excellent Garden Auriculas and Polyanthus; Redwoods Garden a beautifully graduated display of flame, bronze, yellow and white Polyanthus edged with forget-me-nots; Linda A. Eckman's exhibit brought from Dayton consisted of bronze, pastel and blue specimen Polyanthus in white carriers and baskets; and Breithaupt's Gardens finished the north side with a display of brilliant Polyanthus.

The Clarkes led off at the south staircase with specimen Polyanthus, Blue Acaulis, Garden Auriculas and lavender, rose, pink and white Sieboldia; Al Brooke showed pink and leathertcoat Auriculas; Carl Starkers Gardens featured the Show Auricula "Fred Wiper" and the Polyanthus "Cowichan," both British Columbia originations and both reds of the most vibrant quality; Nyden's Primrose Path displayed Auriculas, pink Polyanthus and brilliant Polianthus in three wheelbarrows; Mrs. Flavius Meier who brought her display from Salem accented blue Polyanthus with pastel and vivid shades; Mrs. Karl Stewart produced an outstanding exhibit with Polyanthus and Auriculas of all shades; Mrs. Wilmot of Wilmot Farm showed her usual ingenuity by planting the tray of an antique trunk
Polyanthus and Mrs. Florence Bennett was more than happy with Marguerite Clarke’s copper bowl won with that veteran ribbon getter, a rather small-flowered but superbly fashioned flame Polyanthus. Oddly enough it was a medium-sized scarlet Polyanthus dug by Marguerite Clarke on the spur of the moment because it looked appealing with a raindrop in its eye which won for her the Barnhaven trophy, a coincidence causing much fun. Mrs. O. G. Muessig won the Torpen cup with the red Juliana Primrose Lodge and Mr. Ralph Balcom took Mrs. Land’s cup back to Seattle with his purple Auricula. Mrs. Edna McKay received Mrs. Lathrop’s painting of Primroses for an excellently grown specimen of P. leucophylla in something like a trance, as would anyone winning a canvas from an artist of such capabilities. Garden Clubs winning bound volumes of Quarterlys were Beaverton, Hood View, Fir Grove and Wayside. Pres. Allen W. Davis bestowed the awards.

Credit for the show goes to Mrs. John M. Young and Mr. Carl Maskey, their ingenuity, efficiency and committee chairmen which included R. M. Brown, finance; Allen W. Davis, properties; Mrs. John M. Young, publicity; Mrs. Joyce Neillan, hospitality and information; Lou Roberts, classification, rules and schedule; Mrs. Leander Anderson, program; Mrs. M. A. Lawrence, entries; Mrs. T. W. Blakeney, placing; Mrs. John Reutter, commercials; Mrs. H. A. Hartshorn, garden clubs; Mr. M. A. Lawrence, judges and clerks; Mrs. John II. Holmes, ribbons and awards; Mrs. S. R. Smith, membership; Mr. R. W. Ewell, registration of out-of-town guests, and Mrs. Audra Link, complementary arrangements. Mr.
Claude W. Mills was chairman of the Daffodil Exhibition.

Admission of 25c was charged the general public, members of the Society being admitted free of charge as were children. Attendance was larger than any previous show with over 800 out-of-town registrants and the nominal charge that began as an experiment finished off with dividends.

With placards everywhere, transportation facilities featuring Primroses, displays in shop windows, an exhibition of rare books and art in the Public Library, Portland became the Primrose city during Primrose week. Plans for the 7th Annual Primrose Show are being discussed and members have been polishing up this year's plantings for next year's showing.

What might be called a cold summer—certainly a wet one—Primroses have been in bloom since spring. And although Primroses in Indian Summer are not Primroses in the spring, yet we have seen enough to guarantee an even more exciting spectacle.

Following is the list of winners in all horticultural divisions:

### Vernales Section

<table>
<thead>
<tr>
<th>Div.</th>
<th>Vulgaris</th>
<th>Acutis, Single &amp; Double</th>
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<tbody>
<tr>
<td>1st</td>
<td>Mrs. John Reutter</td>
<td>2nd—R. B. Brown</td>
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<tr>
<td>2nd</td>
<td>Mrs. John Reutter</td>
<td>1st—R. B. Brown</td>
</tr>
<tr>
<td>3rd</td>
<td>Mrs. John Reutter</td>
<td>3rd—R. B. Brown</td>
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</tbody>
</table>

### Division 1—Primroses

| Light Blue | 1st—Mrs. John Reutter | 2nd—Mrs. John Reutter |
| Dark Blue | 1st—Mrs. John Reutter | 2nd—Mrs. John Reutter |
| White     | 1st—Mrs. John Reutter | 2nd—Mrs. John Reutter |

### Division 2—Cotyledon; Golgi; Polyanthus

<table>
<thead>
<tr>
<th>Cowslip</th>
<th>1st—Mrs. John Reutter</th>
<th>2nd—Mrs. John Reutter</th>
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<tr>
<td>Oxlip</td>
<td>1st—Mrs. John Reutter</td>
<td>2nd—Mrs. John Reutter</td>
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### Division 3—Polianthus

| Pink | 1st—Mrs. John Reutter | 2nd—Mrs. John Reutter |
| Yellow | 1st—Mrs. John Reutter | 2nd—Mrs. John Reutter |

### Division 4—Rose-in-Rose

| Old Forms (Small-leaved) | 1st—Mrs. John Reutter | 2nd—Mrs. John Reutter |
| Pink & Rose | 1st—Mrs. John Reutter | 2nd—Mrs. John Reutter |

### Division 5—Juliana and Juliana Formes

| Juliana, Blue | 1st—Mrs. John Reutter | 2nd—Mrs. John Reutter |
| Juliana, White | 1st—Mrs. John Reutter | 2nd—Mrs. John Reutter |
| Juliana, Rose | 1st—Mrs. John Reutter | 2nd—Mrs. John Reutter |
| Juliana, Crimson | 1st—Mrs. John Reutter | 2nd—Mrs. John Reutter |

### Garden Clubs

- **7-Auricula Section**
  - Garden Border: Auricula
  - Light Blue: 1st—Mrs. John Reutter |
  - Dark Blue: 1st—Mrs. John Reutter |
  - White: 1st—Mrs. John Reutter |

- **7-Cortusolus Section**
  - P. denticulata alba: 3rd—Allen W. Davis |
  - P. roses grandiflora: 1st—Mrs. John Reutter |

### Out of City Clubs

- **3rd—Multnomah Garden Club**
  - Garden Border: Auricula
  - Light Blue: 1st—Mrs. John Reutter |
  - Dark Blue: 1st—Mrs. John Reutter |
  - White: 1st—Mrs. John Reutter |

### Important Notice

- General election of officers will be held at the annual meeting of the American Primrose Society, December 16, 1947, 7:30 P.M. at Library Hall in the Public Library, S.W. 10th and Yamhill Sts., Portland. Members outside of the Portland area in good standing who wish to vote but cannot attend the annual meeting may send for ballot, request to be received by the Corresponding Secretary, Mrs. S. R. Smith, Route 16, Box 102, Portland 2, Oregon not later than November 18, 1947. Marked ballots must be returned to the Corresponding Secretary before the annual meeting, at which time they will be opened and counted.

There is a recommendation before the membership to amend Article IV, Sections 1, 2 and 3, said amendment to be incorporated into the By-Laws, Article I: That the offices of Corresponding Secretary and Treasurer be combined into a joint office, and that the officer holding said office of Secretary-Treasurer be elected by the Board of Directors in December for the coming year and that a stipulated remuneration be set at that time.
of *P. aurantiaca*, and narrowing at the base into a winged petiole. The scape is without farina, as are the pedicels. The inside of the cupped calyx is lithefusine. The flowers are carried on two foot scapes and are reddish-purple with a clear yellow eye. Though a very satisfactory species, it is little known in gardens and has been practically overlooked by hybridizers. It requires a copious supply of summer moisture to thrive.

**P. chungensis** Balf.f. et Ward. Discovered in Yunnan by Kingdon Ward in 1913, *P. chungensis* is a marsh and forest plant extending from Yunnan to Szechwan, Bhutan and Assam. The leaves vary in shape, being elliptic to oblong to oblong-obovate. They are 4-12 inches long, smooth, rounded at the tip, toothed and slightly lobed at the margins, narrow at the base. The tall scape, to two and a half feet or better, is very mealy about the bracts and nodes, although the pedicels are only lightly so. The flowers are pale orange, strongly annulate. The flowers resemble those of *P. Bulleyana* but are inferior to those of that species, being smaller and less strongly colored; however it is an early bloomer and valuable for that account. A very easy garden subject, liking moisture and some sun.

**P. Cockburniana** Hemsl. This celebrated species was introduced into cultivation by Messrs. Veitch & Sons in 1905 from seed collected by E. H. Wilson in marshy meadows of Tatsien-lu. A plant in affinity with *P. chungensis*, *P. Cockburniana* is smaller in all its parts, more difficult of cultivation, but of a much better color. The leaves, 4-6 inches long, are oblong to oblong-obovate, rounded at the tips, somewhat lobed and minutely toothed at the margins. Traces of farina are occasionally present on the leaves. The scape is thin and rarely exceeds a foot in height. It bears one or more tiers, rarely more than three, of bloom, farinosed at the nodes. The flowers are not large but are of a remarkably vivid orange-red. The darling of the hybridist, this species has contributed some very highly-colored and desirable forms when crossed with *P. pulverulenta* and other species of the Section. However it tends to simulate a biennial growth cycle, as mentioned above, and this makes for weak or short-lived hybrids. In contrast with the other Candelabra Primulas, *P. Cockburniana* has a scaly rhizome and loses its leaves early in the fall, as the fruit ripens. The renewal buds thus prematurely exposed are protectively sheathed in thick, fleshy scale leaves, which, along with the scales of the rhizome, may be detached and rooted much after the manner of a lily bulb. Seed should be gathered every season and disbudding should be regularly practiced on part of the plants raised to insure this species' garden residency, for it is the most difficult of the Section by far.

**P. helodoxa** Balf.f. This is a low-altitude species from far western Yunnan and the adjacent areas of Burma. It was discovered in 1912 by Forrest and first flowered in cultivation in 1916, receiving an Award of Merit from the Royal Horticultural Society that year. The oblanceolate, oblong-obovate, or lanceolate leaves attain as much as a foot in length. They are toothed, smooth, and taper into a long, winged petiole. Traces of farina are occasionally found on the under side of the leaves. The scape is very tall, heights of three to four feet being not at all unusual. The nodes, bracts, and pedicels are farinosed, the umbels many-flowered. The flowers are fragrant and bright golden yellow. This easy and spectacular Primula is known as "The Glory of the Marsh."

**P. japonica** A. Gray. Discovered by Charles Wright in 1855, near Hakodad, this well-known species was not introduced until 1871, although earlier attempts were made. It has been in constant cultivation since that date. A geographic outlayer of the Section, *P. japonica* is distinguished from most of the other species of the Candelabras by being entirely farinous, save for the inside of the calyx lobes. It is also distinguished from them in having double the number of chromosomes normal to this section. The basic chromosome number of the Candelabras is 11, all species so far examined being diploid (that is, having two basic chromosome sets, or 22 chromosomes); but *P. japonica* is tetraploid (having four basic chromosome sets, or 44 chromosomes). This explains the extreme reticence of *P. japonica* to hybridize with the other species of the Section. The leaves, up to ten inches long, are obovate-oblong to broadly spatulate, rounded at the tip, narrowing at the base into a winged petiole, which is sometimes absent. The leaf-margins are finely toothed and scalloped. The leaf-texture is rather crisper than that of the other species of the group. The scape is from one to one and a half feet in height, bearing several many-flowered umbels. The long-tubed flowers are quite variable in color. The type plant bears purplish-red flowers; the color ranges, however, from white through pink to near reds and purple-reds. Many of the color forms are muddy and undesirable, but color strains are being selected at several nurseries as well as in private gardens, several of which breed true from seed. Of very easy cultivation, requiring only shade, moisture, and a rather heavy loam, *P. japonica* is inclined to form broad clumps which, if left undivided, may rot in the winter rains. It is therefore advisable to raise a few seedlings each year as insurance.

**P. Poissonii** Franch. This species was found by Delavay near Tali in 1882 and was first raised from collected seed at the Jardin des Plantes, Paris, in 1890. It was first flowered in England the following year. *P. Poissonii* is in affinity with *P. anisodora*, differing from it in being without scent and larger-flowered. The plant, like its ally, is completely without farina. The leaves are obovate-obovate, up to seven inches long, finely toothed at the margins, and with strongly-tapering bases ending in petioles which may or may not be broadly winged. The leaf-blades are normally somewhat involute yellowish-green. The scape is from one to one and a half feet in height, bearing two to six tiers of long-tubed, dark purple-crimson flowers with clear yellow eyes. The corolla lobes are deeply emarginate. White forms are known though apparently not in cultivation.

**P. pulverulenta** Duthie. Undoubtedly the most widely grown of all the Candelabra species, *P. pulverulenta* was collected by Wilson in 1905 on the mountains of Western Szechwan. The rootstalk in this species is very strong, and this undoubtedly contributes to its longevity and ease of culture in our gardens. The leaves, obovate to oblanceolate, are up to one foot in length, rounded at the tip, narrowing into a broadly winged
petiole at the base. The leaf-margins are slightly lobed and irregularly toothed, the veined and midrib very prominent. The scape rises to three feet or more in well-grown specimens and is, along with the bracts, pedicels, and calyces, strongly white-farinose. The type form is purplish-red with a darker eye. Even more popular than the type—at least in this country—are the pink forms developed by the late Mr. G. H. Dalrymple of Bartley and known as the "Bartley Strain." The color range of the Bartley Pulverulentas is from pale to medium pink with the eye yellow, chartreuse, or green. The Bartley Pulverulentas breed true to color. **P. Pulverulenta** has given rise to many excellent hybrids when crossed with such species as PP. Cockburniana, Bulleyana, Beesiana, and chungensia. It sets seed prolifically and crosses with great readiness. Plants have been observed by the author of a dark rose-pink shade, intermediate between the pink of the Bartley Strain and the dark red of the wild form, which were probably the result of crossing Bartley Strain forms with the type. This would suggest that the color range of this species may still be broadened. Self-sterile white forms have been developed in English gardens but are not in cultivation here.

**P. Smithiana** Craib. One of the outliers of the Section, this species is found in the Eastern Himalayas. In general appearance, it resembles a smaller **P. helodoxa**. The leaves are oblong-lanceolate to ob lanceolate in shape, up to eight inches long, and narrowing at the base into a more- or less winged petiole. The leaves may be smooth and farinoso on both surfaces, are lightly yellow-farinose on the under-surface; they are generally toothed at the margins. The scape is from one to two feet high, bearing from one to four umbels. The nodes, bracts, pedicels and calyces are cream- or yellow-farinose. The small pale yellow blooms are markedly annulate—as are, indeed, many of the species of this Section. **P. Smithiana** prefers more sun than most of its fellows and demands moisture when in growth. It is not a particularly striking species.

At least brief mention must be made of the many excellent hybrid strains which have been developed within this Section. As in the genetically comparable Sections Auricula and Vernales, the occurrence in the Section of both species bearing flavone-derivative pigments, in the yellow-orange range, and of species bearing anthocyanin pigments, in the pink-lavender-purple range, which are cross-fertile has made possible the development of an unusually wide hybrid color range. The occurrence of rich orange and orange-red flavone-derivatives in PP. Cockburniana, Bulleyana, aurantiaca, and chungensia—colors which are absent from the wild species of the Auricula and Vernales Sections—enable the hybridizer to breed for rich and fiery colors which are found in few other garden subjects. In addition to these pigments, the unusually dark anthocyanin of **P. anisodora** may be used to advantage in the production of browns and very dark red and purple shades. Full advantage of these possibilities is yet to be taken, and certainly will be taken as these species become more widely known. The chief strains and forms in cultivation at present include the following, (which are listed under the species involved in the cross, those species being listed alphabetically, since the nomenclature of these forms is in some confusion, identical crosses having been independently made and named by different hybridizers):

**P. anisodora x helodoxa.** The first generation hybrid is known as **P. anisodora**. It is dark chocolate brown with a yellow eye, the tube and petal edges shaded orange, intermediate between the parents in growth and form. The second generation yielded various shades of magenta and red.

**P. Beesiana x Bulleyana.** The original cross was flowered and exhibited before the Royal Horticultural Society in 1912 by Sir Isaacs Bayley Balfour, at which time it received a Botanical Certificate. The color is salmon. The second generation hybrids were developed at Lissadell in Northern Ireland in 1914, named and distributed to the trade as **P. x Asthore**. The color range includes white, pink, rose, salmon, orange, and orange-red. The crosses have been repeated by various other hybridizers, and similar strains are available under the name **P. x Bullesiana**. Among the most vigorous of the hybrid Candelabra strains, these forms deserve to be more widely grown.

**P. Bulleyana x Pulverulenta.** Two first generation forms of this cross have apparently been raised: **P. x Ladybird** and **P. x Inverleith**. The former is deep rose with a darker eye and was awarded an A.M. of the Royal Horticultural Society in 1915; the latter, with deep pink flowers, was awarded a Botanical Certificate in 1912. Second generation hybrids are in shades of rose, yellow, and orange, often bearing the very mealy scapes characteristic of **P. pulverulenta**.

**P. changensia x Cockburniana.** A very vivid orange hybrid, in effect a larger **P. Cockburniana**. It has the pseudo-biennial habit of that species.

**P. Cockburniana x Pulverulenta.** A most productive cross! The first generation form is known as **P. x Unique** and was first raised by Messrs. Veitch in 1908, receiving an A.M. from the Royal Horticultural Society that year. In size and leaf, the hybrid strongly favors **P. pulverulenta**. In color, it is intermediate between the parents, being a vivid orangescarlet. **P. x Unique** has the advantage of being fully perennial in habit. Although the original plants have probably been lost to cultivation, the cross should not be difficult of repetition. The best known second generation strain is **P. x Lissadell**, raised by Sir Josslyn Gore-Booth at Lissadell, in North Ireland, during 1919-20 and after. The color range is extremely rich, including many brilliant orange-red and scarlet forms, as well as orange-salmons, rose, and rose-red shades. Several named forms were introduced and have been grown in this country. They are still to be found is questionable. Chief among them were **P. x Lissadell** var. Red Hugh, bright vermilion-red, and **P. x Lissadell** var. Aileen Aroon, a dark orange. These forms are fertile, and seedlings—particularly of **P. x Lissadell** var. Red Hugh—are not uncommonly met with.

As will be seen, the possibilities for hybridization in this Section have hardly been tapped. Of the 66 possible bispecific hybrids, only seven are at all common, and probably not more than a dozen have been made.

(To be continued)
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POLYANTHUS, of colossal size, hardy, early flowering, rare shades, including the much sought for pastel, rose and violet tones, as well as the brighter yellow, orange-copper and tile shades. Mixed pkt. $1.00.

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**BULLEYANA HYBRIDS**, blending tones, yellow, apricot, peach, burnt orange and rust, excellent for mass display. Pkt. 50 cents.

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NURSERYMEN and PLANTSMEN
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Catalog sent upon request
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Features a comprehensive list of Herbaceous Plants, including Primroses.
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1948 Catalog-guide in late fall.
Barnhaven Gardens
Gresham, Oregon

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