

Primroses



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Primroses



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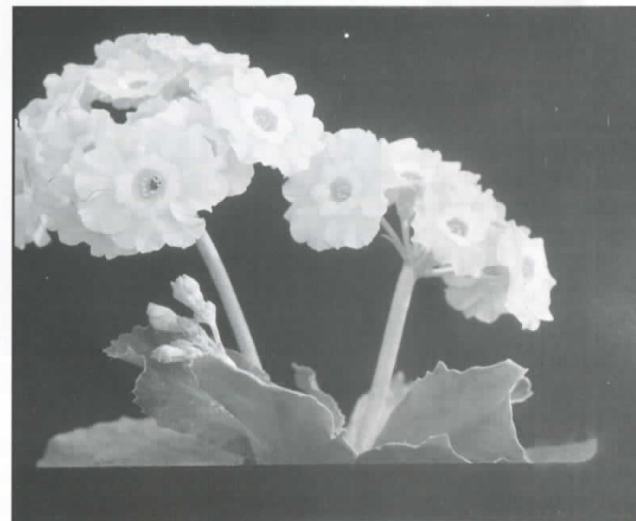
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A photo of a Primula Show

Photo by Cy Happy



Border Auricula

Photo by Cy Happy (1980)

Regarding...

1999-2000 APS Seed Exchange...

The deadline for mailing your seed packets to APS Seed Exchange Coordinator, Ruby Chong, is October 31, 1999. See insert for more information.

Plant Portrait

By Ann Lunn - Hillsboro, Oregon

Primula warshenewskiana

It is the little plant with the big name. *Primula warshenewskiana* is definitely a dwarf species whose individual rosettes don't exceed 2 inches in height nor in diameter.

As a member of the Oreophlomis section, *P. warshenewskiana* is closely allied to *P. rosea*, *P. clarkei*, *P. auriculata* and, surprisingly, *P. luteola*. It spreads by short rhizomes, producing compact mats of small 2- x 1/2-inch leaves. The leaves may be entire at first, but develop a definitely toothed margin as they age. The shape is oblong to oblanceolate; much more elongated than the little rounded leaves of *P. clarkei*.

In early spring, flowers cover the leaves in umbels atop 2-inch stems. The stem is much shorter when the flowers are in bud, but lengthens as the blossoms open. Flowers are rosy pink with a yellow eye surrounded by a narrow white zone. The yellow corolla tube has a definite ring-like constriction at its mouth. Both pin and thrum forms exist.

Halda recognizes three subspecies: *ssp. warshenewskiana* is the type species; *ssp. rhodantha* has more elliptically shaped leaves with an irregularly dentate margin; *ssp. olgae* differs in having a much longer flower stalk, up to 5 inches, and a more compact, rounded umbel. Richards recognizes only the first two subspecies.

Regel first discovered *P. warshenewskiana* in 1882, but it wasn't described as a new species until 1902. It is an Asian plant found in northwestern Afghanistan, northern Pakistan and in Tadzhikistan. Plants like wet, rocky areas in meadows or along streams at elevations from 5400 to 13,500 feet.

Because of its small size, *P. warshenewskiana*



P. warshenewskiana (Agee plant)
photo by Jay G. Lunn

can be seen and appreciated more in containers or troughs. However, the plants seem to do better in the open garden, perhaps because of a more consistent supply of moisture during the spring and summer months. In either situation, it needs a well-drained gritty mix with added humus in partial shade. A peat bed provides the ideal conditions. Since the roots are shallow and cannot tolerate drying out, it is essential to keep the plant moist during the hot, dry summer.

Primula warshenewskiana can be easily divided after flowering in the spring or in the fall if the roots have adequate time to become reestablished before freezing. Since this species is self-sterile, it rarely sets viable seed. If seed is produced, however, it should be sown fresh for maximum germination.

One hybrid is known. In 1980, Henrik Zetterlund crossed *P. warshenewskiana* with *P. clarkei*, the latter being the pollen parent. He named the best offspring after his daughter, Johanna. *Primula x 'Johanna'* is easy to grow in the open garden and increases rapidly. It is larger than either parents and, in fact, re-

sembles *P. rosea* more than either parent. It does not, however, set seed.

The little plant with the big name would make an ideal addition to a trough or to a shady part of the rock garden.

Sources:

- Halda, Josef (1992). The Genus *Primula*. Tethys Books, Englewood, Colorado.
- Richards, A. J. (1993). *Primula*. Batsford, Ltd., London.

Glossary:

dentate - with small teeth or serrations

entire - smooth, without teeth

margin - outer edge of leaf blade or petal

oblanceolate - refers to shape of a leaf whose broadest part is near the tip and tapers toward the base

type - specimen used to describe the species. ♣

Garden Auriculas

By Maedythe Martin - Victoria, BC

At Helen and Fred Clarke's, just outside Tacoma, you drove into the yard up the driveway to park under some of the huge deciduous trees that sheltered the beds of primroses and auriculas. The range of colors in the auriculas was great, and they made a multi-colored display in the sweeping, half-circular bed under the maple tree. Helen had grown them from seed from England over 35 years ago. I first saw them in the early 1980s. She kept dividing and replanting and feeding them, and they were a sight. But best of all, she let me have offsets.

Back to Victoria came the fresh starts, and they rooted in their pots of sand on the northwest side of the house. There were lots — cream and yellow, pale blue and pink — the pink was my favorite. A couple of years later I was able to put a good display of garden auriculas at our local alpine gardening show, never equaled since.

Once the plants were growing and blooming, there was seed. Surprisingly, the colors came more or less true. The whites and pale creams led to more pale colors. The yellows bred true, and there were some lovely yellows, with flat faces and white meal around the eyes.

We moved in 1988 and I gave away

most of the plants — some growers in Victoria still have them, ten years later.

Not only were they good garden plants, putting on a fine display, they were hardy. One of the reasons I figured they were good garden auriculas is that they held up their heads — no bowing down and falling over. A few Barnhaven

plants made their way into my collection and a pale grey was added to the mix. The pale grey I always thought of as silver. I still have about half a dozen plants, and if you have ever had garden pastels auriculas seed from the APS seed exchange, this is where they came from.



'Caramel,' one of Helen Clarke's strain of garden auriculas
photo by Maedythe Martin

My all time favorite I called 'Caramel.' It had very clear lines and is a buff color with a hint of yellow around the eye, though the bud is pink. I've often thought it deserves to be hybridized with a show auricula in a pale color — what delights we might see.

The pink was not as tough a plant as the others, and has departed. However, imagine my delight last year to find a pink garden auricula in the plants of Herb Dickson's that April Boettger brought to Vancouver for the Alpine Garden Club of B.C. show in April. The garden pink auricula actually set seed. I may even have crossed it with 'Caramel!'

I am still grateful to Helen Clarke for the fine garden auriculas she was so gracious as to share with another grower. ♣



First Things First

By Ilse Burch –
Redmond, Washington

Companion plants for primula - part 1

This is the first article in a pair on companion plants for primula. This article will largely dwell on what makes a good companion plant, and how to compose a pleasing picture. Of course, taste is subjective, but I hope to provide some food for thought on the subject. The "How" and the "Why" are the focus of this first article. The information in this article should be useful to gardeners in all zones.

The second article will go into depth on plants that I think are good companions. While I love primulae, I find that a garden devoted entirely to them can be somewhat monotonous when viewed as a composition. I will make every effort to be accurate with hardiness, etc., but I suggest that gardeners should check a reference. I believe that all gardeners should have at least one fairly comprehensive guide to plants in general, even if they specialize. The book I am currently using for zone data is the *Royal Horticultural Society Index of Garden Plants* by Mark Griffiths. Another good choice could be *The Bernard Harkness*

Seedlist Handbook.

Every person who gardens uses companion plants. Loosely defined, a companion plant is any plant that grows near another. The placement and selection of these plants can be purely serendipitous (a happy accident), or carefully planned. As in human society, certain individuals may not like each other very much. The strong and surging will beat out the weak and creeping. It is the job of the gardener to attempt to balance this struggle. Frankly, I always felt happy just to keep everybody alive and growing, because I really do believe that he who wishes to rule the world should start first with a small garden. Maybe Napoleon Bonaparte would have done better to spend more time with Josephine in the rose garden...

Nowadays there are loads of books on good plant combinations. I like to borrow them from the library, look at them, and then buy the ones that seem to fit my needs. It is very useful to use these to get the feel of how to arrange plants. Plant combining is a painterly skill, and not everyone will be a Renoir, but it is satisfying to see something that works. On the other hand, there are a lot of great gardeners that line their plants out like vegetables, and if they are happy, it's their garden. Oftentimes the rarest and hardest to grow plants do better when given elbow room and not planted with too many companions. This is because air circulation becomes impaired in a tightly planted garden, and rot becomes a problem, and it is easy to lose a plant.

Contrast, Harmony, and Scale are the main esthetic concepts that govern the selection of plant companions (not including cultural factors). Scale is the most important, and is dictated by the biggest feature in the area. Scale sort of makes it possible for the plants to participate in a "relationship." For example, a large pond needs a large plant such as *Gunnera manicata*, which is huge. It's no good putting a large pond in a small backyard – it's out of scale. Like-

wise, a *Gunnera* will make a tiny pond just disappear. But everyone can have a water feature that looks good if they select one that is the right size for their area. A huge lone tree with a tiny island bed around it will look peculiar because the scale is off. The island bed needs to be larger, or the tree needs a friend to take some of the visual focus away.

Primula species range from the tiny to fairly large plants. Good companions for each species depends on the size and vigor of each one. Some primula species are only practical in an alpine house in a pot, but there a companion plant might be a tiny saxifrage, or even a mossy bit of tufa rock (a porous rock used a lot in rock gardens). Cultural requirements are very, very important in the selection of agreeable neighbors.

Contrast and Harmony are opposites. In Contrast the goal is to place plants which are quite different together and enjoy the way they accentuate certain qualities in each other. The accent is on the individual plants, and the effect is one of stimulation. In Harmony, one puts that which is similar together to make a grouping that gets along and feels content and agreeable. In Harmony, the accent is on the grouping. Favoring Contrast or Harmony is like being either right- or left-handed. By nature, I have always favored Harmony, but I am trying to develop my Contrast abilities. It is a good idea to get a feel for where you are naturally (know thyself), and then you can develop talents that lie unused (and, believe me, everyone has plenty). The best gardens use both Contrast and Harmony. If all one sees is Contrast, the garden is like a symphony composed of crescendo only. Likewise, if all one sees is Harmony, then the garden becomes a good place for taking naps and treating insomniacs.

Fashionable garden design is a lot like interior design – the favored styles are always changing. If you ignore all the concepts, all your plants may well do OK, but you will be left with the feeling of a mish mash. If looking at your garden makes you

feel restless, then there is a problem with the composition. It is important to do what you will like, and not necessarily go for high drama unless you know you'll like it. So try not to be daunted by what 'Other People Think'. Listen to criticisms, but don't assume that their opinions override yours in value.

Color combining is a very personal thing. There are a lot of ways to combine color. There are not written rules that I am aware of about what is acceptable. Color wheels are useful for analyzing what you like. Or you can learn as you go. Or you can take up painting. It is often easier to enjoy color in a garden, because the ample amounts of green leaves sort of buffer any strident combinations. In our current time, certain color combinations, such as pink and yellow, are frowned upon. It is a pity that the flowers weren't notified of this, because many pink flowers have a bit of yellow, and often primroses will have a yellow eye. The styles will all change in 25 years or so, **so do what you like!**

Primulae look best in groupings. They have low visual impact unless blooming and look best when their companions can hold the fort when the primulae are inactive. Hopefully the companion plant won't be too "smothery," such that it hangs over too much and shades the leaves of the primrose. The companion plant should have good foliage, if possible, and if that foliage is evergreen, so much the better. If you are not fond of foliage, I hope to win you over. Even if you wish to disregard color theory entirely, your garden will look best when there is a good balance between types of foliage, and always try to get in some really large leaves as well as some ferny ones.

My next article will talk about some personal favorite companion plants. In the meanwhile, if you visit a garden, make a note of what you really like, even if it is a pot. Learning what you like will go a long way in helping you get the garden of your dreams. ❁

Balcom's "Moonlight"

By Maedythe Martin

Does anyone know this auricula??? I've had it for eight or ten years, and I'm sure it came from the Seattle/Tacoma area. Someone once said to me, "That looks like Balcom's 'Moonlight'," and that's what I've called it ever since, but I wish I knew more about it.

It is quite white, but like many white garden auriculas it does have a touch of yellow in the center of the flower until it has been open for a day or two. It is defi-

nately pin eyed, but that means it is a good parent for hybridizing. This plant did set seed this year.

The flower is conspicuously notched between petals, but I like the lacy effect this gives. The flower head is held up well on a strong stem. The plant does not increase quickly for me, but it does struggle on.

If anyone remembers anything about Balcom's 'Moonlight,' please enlighten me! ❀



Is this Balcom's 'Moonlight'?

Photo by M.J. Martin

Tacoma Chapter ~Show Report~

The Tacoma Chapter of the American Primrose Society hosted its first-ever three-day National Show on April 16, 17 and 18, 1999. The show was held in the Western Washington Fair's Expo Hall in conjunction with shows by the Rhododendron, Bonsai, and the Olympia Orchid societies. The setting was beautiful and drew many people.

Members who had plants grown outside: Rhododendron, Primula and Rock Garden plants were severely challenged this year by El Niño. Up until the day before the show we were crossing our fingers and biting our nails hoping there would be at least a small showing, but thanks to a couple of warm days, Thea Oakley and Cy Happy's gardens gave forth a bonanza of blooms in time to please our viewers.

This year, as last year, we invited the Rock Garden Society to participate in our show. With their help and the help of our other chapters we benched 218 items for public viewing. We also had a fine selection of plants, books and troughs, empty and planted, for sale.

Our schedule this year included a General Section Division for Rock Garden Plants, and all divisions were judged and awarded trophies as well as gifts for the winners. Cy Happy and Rosetta Jones held a judging school on Saturday morning for prospective judges. On Saturday evening a banquet was hosted for 48 people and drew members from Canada, Alaska, Connecticut, and New York, with our member from New York, Elaine Malloy, taking home the Novice award for a plant

she had carried on the plane from her home. Guests of honor at the banquet were long-time members to whom we wished to pay homage. Honored were: Thea Foster, a long-time member, who hybridized many fine plants and was active as a correspondent until her death in February. Her death was not known at the time of her selection. Loie Benedict has been a life member of our chapter for many years and at 92 still has an interest in our society. Jerry Flintoff had named a lovely pink primula *seiboldii* the 'Loie Benedict.' Loie was unable to attend. Our third Honoree was Beth Tait from the former Primrose Acres, an active member of the American Primrose Society as well as of the Washington State Society for many years. She has done much in the field of hybridizing, having produced the beautiful American Beauty and Ann Francis. Beth was able to be with us.

At the banquet, President June Skidmore, presented the Certificate of Award, and announced the results of the election of officers.

Jennifer Lort and Fred Hook of Victoria presented a program on "Travel with Plants." It was well received.



SHOW AWARDS 1999

BEST IN DIVISION	TROPHY	PLANT	WINNER
Vulgaris (Acaulis)	Etha Tate National National	Magenta colored vulgaris	Thea Oakley
Double Acaulis	Ernest Winter Tacoma Chapter	Rosetta's Red	Rosetta Jones
Polyanthus	Washington Hdw. Tacoma Chapter	Dark Lavender with gold eye	Thea Oakley
Cowichan	John Kerridge National	Deep maroon beautiful	Thea Oakley
Acaulis-Polyanthus		Bright clear yellow	Rosetta Jones
Jack-in-the-Green	Floyd Keller Tacoma Chapter	Dawn Ansel solid flowered	Cy Happy
Juliae hybrid	Ivanel Agee National	Lavender yellow eye	Cy Happy
Plant in Show	Silver Tray	same plant as above	Cy Happy
Garden Auricula		Large clear yellow	April Boettger
Brightest Garden Auricula		Deep red with yellow eye	Cy Happy
Species	Ray Berry National	Alba Hirsuta	Thea Oakley
Asian Species		Very deep purple Denticulata	Thea Oakley
European Species		Yellow vulgaris	Cy Happy
Most Species in Bloom	John Kerridge National	Thea Oakley	
Alpine Auricula	John Schuman National	Deep purple light eye	April Boettger
Double Auricula	Ellen Page National	'Frosty' variegated lavender hybrid auricula	Rosetta Jones
Named Show Auricula	Mary Zack National	American Beauty	Cy Happy
Gold Laced Poly	Capt. Hawkes National	Mahogany gold-laced	Thea Oakley
Gold Laced Seedling	Ivanel Agee	Black gold-laced	Thea Oakley
Double Auricula Seedling		Light yellow Barnhaven seed	Thea Oakley
Oddity		Lavender striped auricula	Thea Oakley
Novice	Silver Tray	Light lavender Julia hybrid named 'City of Bellingham'	Elaine Malloy
Grower's Exhibit		Large color spot of deep pink - name unknown	Thea Oakley
Primulaceae		Dodecatheon	Thea Oakley
General Rock Garden Section		Large pot of pink Anemonella	Thea Oakley
Bulbous		Red Trillium - several in pot named Red Robin	Thea Oakley
Bonsai		Hemlock in an oval dish	Lady Jo Peterson
Shrub		Pot of Salix yezoalpina	Thea Oakley
Miniature Garden		Trough of pink mossy saxifrage	Cy Happy
Rock and Alpine		Purple Trillium Red Robin	Thea Oakley

Prim and Proper Primrose Pronunciation

By Lew R. Micklesen - Seattle, WA

This is the second installment of a series of short articles aimed at a clarification of the pronunciation and meaning particularly of the specific epithets in the genus *Primula*. The emphasis must necessarily lie on the position of the accent in all these words. In all languages and in our botanical terminology the site of the accent is frequently more critical than the pronunciation of the individual sounds. Remember that the accent in all our botanical terms falls either on the next to the last (penultimate) syllable or on the third from the last (antepenult) syllable. If the penultimate syllable is long, it receives the accent; otherwise the antepenult syllable is ac-

cented. And bear in mind too that in general the long vowels are pronounced as in cake, evil, kite, vote, and rule, while the short vowels are pronounced as in cat, egg, kit, pot, and sum. We can now proceed to the problematical specific epithets selected for this installment.

P. alsóphila: This specific epithet consists of two parts: Greek *álos* "grove" and *phílos* "loving." The -i- in *philos* is short; therefore the accent falls on the preceding (antepenult) syllable. Note that our system uses an acute accent mark over a short vowel. Note also that the compound adjective ends in an -a to agree with the feminine noun *Primula*. This species belongs to the subgenus, *Augánthus*, which also consists of two elements: Greek *augé* "bright light" from *augéō* "to shine, glitter" and Greek *ánthos* "flower." The combination can be construed as "bright flower." The flowers in this subgenus are fairly showy, but not especially so. This primrose also belongs to the section *Cortusioides*. This is another com-



P. ioessa in St. Andrews Botanic Garden, Scotland
Photo by June Skidmore

ound word. The first part, *cortusio-*, is a combining form referring to the genus *Cortusa* in the family *Primulaceae*, whose plants closely resemble those in this section. The second part of the compound is the Latinized adjectival end-

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PRIM continued from page 11

ing -îdēs from the corresponding Greek ending -eides derived from the noun éidos "form, appearance." The resulting compound adjective means "in the form of or like the genus *Cortusa*. Our system uses a grave accent mark over a long vowel. The pronunciation of the entire word may be rendered as "cor-too-si-oh-eye'-deez."

P. elàtior: This specific epithet features the Latin comparative suffix -ior. This ending has been added to the verbal adjective elatus "raised, proudly erect." The combination means "raised higher, taller." The -i- in -ior is short, and the accent falls on the antepenult syllable. Note that this syllable may occasionally be a long vowel. The subgenus and section are both *Primula*, and we need not comment further.

P. glàbra: This specific epithet is the feminine form of the Latin adjective glaber "hairless, smooth," and it refers to the smooth leaves of this genus. You may wonder why the first -a- in glàbra is long since two consonants follow this vowel. The answer is quite straightforward: if practically any consonant within a word is directly followed by -l- or -r-, the two consonants are pronounced as the first part of the next syllable just as if they were a single consonant; and the preceding vowel is long in such disyllabic words even though the original Latin vowel is short. The subgenus here is *Aleuritia*, and we already know that it refers to "farina." The section *glàbra* is self-explanatory.

P. ioéssa: This specific epithet also has a stem and a suffix. The stem comes from the Greek noun íon "violet," and the suffix is a New Latin adjectival ending -éssa that forms diminutives. The result, therefore, is "small violet." Since the suffix has two adjacent consonants,

the stress is on the penultimate syllable. I would recommend pronouncing this word as "eye-oh-éssa" just as we pronounce "ióta, íonic, etc." The subgenus, *Aleuritia*, offers no problem, and the section *Sikkiménsis*, clearly refers to Sikkim with the suffix -énsis meaning "place or origin." The two adjacent consonants in the suffix determine that the accent is on the penultimate syllable.

P. praeflòrens: This specific epithet differs in that it contains a prefix, prae- "before," ahead, in front." As we already know, the -ae- is pronounced as the e- in evil. The main part of the word, flòrens, is the verbal form (present active participle) meaning "blooming." Its Latin form is flòrens and comes from the verb flòreo, flòrere "to bloom." The long -o- in flòrens naturally receives the accent. The combination of prefix and participle means "flowering ahead, before" and was applied here because this plant flowers in winter. The subgenus is *Carolinélla* and undoubtedly is formed from our familiar place name Carolina plus a Latin diminutive suffix -élla. Note where the two consonants -ll- force the accent. Why the name "Little Carolina?" It seems that these plants grow in Southeast Yunnan in low-lying, humid, warm-temperate to subtropical regions, an area similar to the Carolinas. The section is *Davídii*. *Davídii* refers to Abbé Armand David, a French missionary in China from 1862 to 1873. The form *Davídii* is in the possessive or genitive case and means "of David." Since the base word ends in a consonant, the genitive case form adds -ii, a short -i- plus a long -i-. (Remember that Párryi, ending in a vowel, added only a long -i-.) The whole word is pronounced David-i-eye with the accent on the antepenult. ❀

Collecting and breeding unusual floral forms of British *primulas*

By Margaret Webster
Bristol, England

Unusual floral forms of *Primula* fascinated me even as a small child. My mother had some purple hose in hose (probably Wanda) in our front garden. I used to sit by the flower bed pulling the flowers apart to see why one flower apparently grew out of another! I didn't discover why of course — but I did get told off for spoiling the flowers. By the time I had reached adulthood the plants had been lost and temporarily forgotten.

Very many years later, in the 1980's, I rediscovered *Primula* variants, the first being in the form of a jack in the green growing under our garden hedge when we lived in south Wales. It caused me to remember the hose in hose of my childhood, but it was not easy to find a

supplier at that time. Eventually I did; then I had to learn how to breed *Primulas* since bulking up by division only was painfully slow. Suddenly everything seemed to happen at once — I had the first of my floral variants, I was



Blue hose in hose

learning how to breed them, and I was also studying at the University of Bristol where lectures on genetics (and being allowed to do genetic projects on my *Primulas*) gave me the means to finally discover more about them. I have since enjoyed using the information gained to make good horticultural

forms of the variants, and to produce interesting and sometimes new color variations. I continue to collect new forms and now have a national collection of *Primula*, British Floral Vari-

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ants. The scientific front is not being neglected either; I am using the collection as a resource for part time PhD. studies, under the supervision of Dr. Phil Gilmartin, University of Leeds, who has other projects running on *Primula*. There will be more discoveries made, and more knowledge to use in the future. Each new form, each new discovery, is very exciting. I can enthusiastically recommend this "hobby" to other *Primula* growers (although some people tell me the word "obsession" is more appropriate!) So that you will not have to start quite at the beginning as I did, here is a little information on the main variants and how to breed them.



White hose in hose

1. Hose in hose

Hose in hose have the calyx converted into petals, so that one flower appears to grow out of another. They are easy to breed as the hose form is dominant. This means that the mutation which gives the form only has to be carried on one chromosome (heterozygous) rather than on both chromosomes (homozygous) for the plant to exhibit the hose form. If a heterozygous hose in hose plant is crossed with a normal wild type plant, half of the progeny will be hose in hose and half wild type. By this means new colors can be introduced to whatever hose in hose color you have to begin with; although it is better to begin with a light colored hose, white or yellow, and add darker colors, or lacing, or picotee edges! Dark colors tend



Pink picotee hose in hose



Striped hose in hose



Laced hose in hose



Hose in hose cowslip

BRITISH continued from page 15

to be dominant over pale colors, and pink or red edged picotee petals will also breed easily as a dominant color pattern into whatever form is chosen. Sometimes the progeny will not have as good petaloid calyces as the parent, sometimes they may be better; other minor genes in different genetic backgrounds appear to affect the hose in hose mutation. If a particular cross doesn't give good progeny, try a different (and unrelated) wild type parent next time. I began with one thrum yellow hose in hose, and found when I crossed it to wild type that the hose mutation was linked to thrumness. In breeding terms this meant that the progeny of a pin wild type x thrum hose in hose cross were all either pin wild type or thrum hose in hose. It was many generations before a genetic crossover occurred to give me a pin hose in hose. If you start with a pin hose in hose then linkage will not be immediately obvious as thrum dominates over pin. A cross between pin hose and thrum wild type will give 50% hose in hose progeny, half pin and half thrum. Good forms of hose progeny can then be crossed with each other (pin x thrum) to give three hose progeny to each one wild type.

When the hose in hose form is poorly expressed, giving flowers with funnel shaped color streaked calyces, these are called "Pantaloon," but although they look different to good hose in hose, they carry the same mutation. In fact the name "Pantaloon" has had a number of different descriptions over the years, beginning with Bradley 1739, who gave it the same description we now give to "Jackanapes," and varying over the years before coming to the above description given by Taylor in the 1950's!

For those who haven't the time to deliberately pollinate the plants, naturally set seed on hose in hose plants can

be used. It will give a "lucky dip" result of color or colors with again half of the progeny being hose in hose. For me though the creative element in controlled pollination is more appealing than the excitement of the "lucky dip" approach. Over the years it has given me hose in hose in a range of colors in primrose and polyanthus forms, including laced hose in hose and hose in hose with picotee edged petals; also hose in hose cowslips, and recently the first recorded blue hose in hose (which was surprisingly easy to achieve). I am currently introducing striping to the hose form, so far with some limited success.

2. Jack in the green

Jack in the greens have the calyx converted to leaves, so that when large, it forms a ruff around the flower. Like hose in hose, the mutation is dominant, so that much of what has been described above can also be applied to breeding jack in the greens. There isn't the same problem of poor expression in some progeny, the only variation in the 50% of progeny that are jack in the green will be in the size of the ruff of calyx leaves and possibly in the color of the flowers. There is no linkage to pin or thrumness either. Plants with an abnormally large ruff of leaves are currently called "Gallygaskins;" they are still also jack in the green, and like "Pantaloon" the name "Gallygaskins" was not always applied to the same plant. Parkinsons "Gallygaskin" of 1629 was not a jack in the green, but a plant with larger than usual distorted and fringed calyces and flowers which were described as being "folded or crumpled." Not an attractive plant!

More attractive are the jack in the green cowslips, which I have also bred, but the ruffs on these never seem to be very large.

Besides playing around with interesting color variations in floral variants, petal shape can be an interesting feature.

It can range from the large broad petals of modern cultivars to long narrow petals which are closer to wild type form but less commonly found. The long narrow form can be very attractive in both hose and jack form. One white jack with narrow petals which I raised recently has proved very popular despite the ruff not being as large as I would have liked. But then it wouldn't be so much fun if there was never room for improvement!

3. Jackanapes

These are plants which carry both the dominant gene for hose in hose and the dominant gene for jack in the green. If a heterozygous hose plant is crossed with a heterozygous jack, 25% of the progeny will be Jackanapes, 25% hose, 25% jacks, and 25% wild type. The jackanapes have a calyx of leaf and petal, the petal normally being at the base and the leaf at the tips. I say "normally" since if an unstable hose in hose is used as a parent the expression of the hose mutation may vary, giving calyces where some calyx lobes are completely leaflike and others where the amount of petal may vary. These, while interesting, are not attractive plants. It is important therefore to choose a good hose in hose plant from which to raise jackanapes, one with completely petaloid calyces, or one with only a thin green line down the midrib of the calyx petal.

4. Doubles

Unlike the three previous forms described, the mutation for doubling is not dominant but is recessive. This means that the mutation must be carried on both of the relevant chromosomes before the effect can be seen in the plant (ie., it must be homozygous for the mutation). Therefore if starting from scratch, it takes two generations of plants to produce a double.

The first step is to find a double with

pollen. Sometimes if grown badly, the stress factor seems to result in pollen production. I can get "Dawn Ansell," the double jack in the green, to produce pollen by pot growing it and underwatering. It then produces the occasional small anther on the inside of the second row of petals in later flowers. Other doubles may produce stamens in the very center of the flower. I have had this in both "Chocolate Soldier" and "Lilian Harvey," but only in some years, not consistently.

The next step is to pollinate the seed parent of choice. Incidentally it is wise to completely remove the corolla of chosen seed parents before their anthers have reached maturity, to eliminate the possibility of self pollination. That even if the cross is not fully controlled (ie. isolated in a net tent to exclude insects), a stigma inside a calyx without any petals is not especially interesting to insects! All of the progeny from a wild type x double cross will be wild type, but all will also carry the mutation for doubling on one of the relevant chromosomes.

The final step is to either cross these progeny together, which will give 25% doubles, or to pollinate them again with a double pollen which will give 50% doubles. Doubling will only occur in those plants with the recessive mutation on both of the relevant chromosomes.

Mutations can be combined for added interest. I have already mentioned the double jack in the green. Double hose in hose can also be produced (but don't look especially exciting), and I have produced the first recorded double jackanapes earlier this year. We also now have the double cowslip, recreated by Geoff Nicolle a few years ago, and named "Katy McSparron" after his granddaughter. There are not many double polyan-



Pink picotee jack in the green

thuses of true tall stemmed polyanthus habit. One which cropped up accidentally from a packet of polyanthus seed raised by Lin Rogers (and which I have shown very successfully under the name of double polyanthus "Lin Rogers") has tall true polyanthus stems and red flowers edged with gold flecking, each having a point of green sepal material in the center. But there is scope for further development here.

5. Greens

There are three forms of green *Primula* in Britain. The first is the green primrose, *P. viridis*. This is not fertile; if the flower is pulled apart it will be seen that the anthers are degenerate and the base of the style mutates into a leafy structure through which pollen cannot grow. It must be propagated by division.

The second green is the virescent cowslip. This is as Parkinsons "Green rose cowslip, or double green feathered cowslip." The present one does not date back to 1692, but occurred again accidentally in the garden of Pam Gossage a few years ago. It too is completely sterile, making no anthers or carpels, and must be propagated by division. It is a curiosity rather than an attractive gar-

den plant, having a mass of long thin green leafy organs interspersed with stigma like organs.

The most recent green, the sepaloid green, occurred only a few years ago for the first time. It too is a curiosity rather than an attractive garden plant, having either four whorls of sepals, or two to three whorls of sepals and a functional carpel. It is the only one to be capable of propagation from seed. I investigated the inheritance by breeding tests and like the mutation for doubling, the mutation for sepaloidy is recessive. It will be bred for it's scientific interest, but I think few gardeners will want it.

6. Other forms

The most interesting form to occur recently is one with calyces that are divided into five segments with no connective tissue between the segments. It has occurred in the past and is illustrated in "Nuremberger Hesperides," an account of all the flowers grown in one German garden between 1709 and 1714, and reported upon in the 1997 Year Book of the southern section of the National Auricula and Primula Society. The current example was discovered by Richard Brumpton. The mutation is domi-

nant, and he has bred it into hose in hose, jack in the green, and jackanapes. Where the calyx is fully or partly petaloid, as in hose in hose and in jackanapes, the divided calyx petals reflex downwards in a strange and untidy manner. In some cases the dividing or splitting also extends to the corolla, splitting it from between the petals down to the point of attachment of the anthers. I cannot help but wonder if this was the form originally referred to as "Feathers?" A description by Bradley in 1739 tells us that "the feathers which first appear to be designed for hose in hose have their blossoms so split and curled that they somewhat resemble bunches of feathers. They are multiplied each year by sowing the seed." This would indicate a dominant mutation, since at that time nothing was known of genetics and only a dominant mutation would be obtained each year in this manner.

There is a form, also discovered by Richard Brumpton, where the corolla is split but the calyx is normal. This spring I discovered an opposite form in a local garden center — a plant with a fused corolla. The inheritance of these two is

currently under investigation.

Although not a variation in floral form, it is worth mentioning variegated leaves as they are so distinctive. Yet another of Richard Brumpton's discoveries, it occurs on some gold laced polyanthus seedlings. The variegation tends to grow out and must be maintained by dividing the plant and keeping only the pieces with good variegation. They cannot cope with strong sunlight as it scorches the pale portions, so must be grown in a shady position.

I have concentrated on breeding, so now I must say something on collecting floral variants. Membership of relevant societies helps, members may be willing to sell or exchange plants and adverts for "Wants" can be placed in society newsletters. Here in Britain we have an annual edition of "The Plant Finder" which is invaluable for people just starting to collect any type of plant. I also make a point of visiting all the garden centers within range in early spring — I usually find at least one plant of interest each year. It only needs one or two plants to begin with, but once collecting and breeding has begun you will quickly become addicted. Good Luck!✿



Narrow petalled white jack in the green



Split corolla

Show Report

By Maedythe Martin - Victoria, BC

Alpine Garden Club of British Columbia

Spring Show - April 3-4, 1999

The first show in an early season heralded the return of another gardening year with a colorful display of *Primula allionii*, *Juliana* hybrids and elegant *P. marginatas*. The range of *P. allionii* was impressive, though many of the plants were small. The flowers, however, were not, putting on a good display of color. 'Airemist' by Ian Plenderleith was pretty in its pristine glory. I hadn't seen 'Warfdale Village' before, an interesting one of the series bred by Alec Stubbs of Grassington, England, I see from Mary Robinson's book, *Primulas the Complete Guide*. The best primula in show was another *Primula allionii*, 'Mrs. Dyas,' shown by Thea Oakley. This is one of the older varieties, on the show bench now for some decades, and has a smaller flower than some of the newer varieties. It has a rather starry mauvey-pink flower, with a white eye. These are difficult plants to grow, and require a potting medium with very good drainage. Annual repotting is necessary if you want them to flower, and contrary to expectations, they will flower better in not too rich a mix.

'Linda Pope' is one of the all-time best primula hybrids, in my opinion. Ian Gillam staged the plant at the show. The large, flat violet-blue flowers are of a good size and are held erect on a strong

stem. The foliage, perhaps wider than others, has the distinctive edge of farina found on all the *marginata* primroses and the overall effect is one of a true prize winner, even if you only admire it in your own garden. Like the other *marginatas*, this can be grown in a pot, but will grow into a larger patch in a suitable area of the rock garden.

'Linda Pope' was raised by a Birmingham nurseryman, Mr. Pope, who named it after his daughter (again, thanks to Mary Robinson's book). It first appeared around 1911 and has received admiring glances ever since. All the *marginatas* tend to flower early in the season, at a time when other primula have not begun, and are the more welcome for this early habit.

Three other *marginatas*, staged by Ian Plenderleith, caught my eye. 'Jimmy Long,' 'Agee' and 'Herb Dickson' are all plants raised in North America. Jimmy Long was a member of APS for years. He lived at the East Coast, and this *marginata* is one he grew, not named after him. 'Agee' was raised by Ivel Agee of Oregon, and has the most amazing amount of meal on the leaves, making them attractive all year round. 'Herb Dickson' is a new introduction by April Boettger of *A Plethora of Primula*. Raised by Herb from his own seed, it is of a deep clear blue, a truly handsome flower. April named it to commemorate Herb and his contribution to fostering primula in the Pacific Northwest.

One of the earliest primulas to bloom is the little white *acaulis* 'Harbinger' and there was a plant of it staged by Phyllis Plenderleith. All the classics were there as well, the cheery yellow faces of the true primrose, *P. vulgaris*; the cowslip, *P. veris* and the oxslip, *P. elatior*. The hybrid *julianas* were plentiful this early in the season, and it was nice to see 'City of Bellingham,' raised in the Pacific Northwest, on the bench with the more well known 'Wanda,' 'Dorothy'

and 'Lady Greer.' One *juliana* that looks like 'Wanda' but has a slightly different flower shape and a more red color is 'Lizzie Green.' Apparently this was one of the early German hybrids, known as *P. x pruhoniciana*. Do you wonder at my referring to them as *julianas*? Another treasure, actually from Vancouver, was 'Butterball,' shown by Ian Gillam, raised originally by Susan Worthington Watson, who was instrumental in getting the *APS Pictorial Dictionary of Primroses* started.

One of the petiolarid primroses was present - *P. edgeworthii*, with violet-blue flowers above leaves covered in meal. Vera Peck staged this plant. These are Asiatic natives, from the Himalayas in Nepal, and, being deciduous, retire to a resting bud for the winter. In their local habitat they snuggle under a deep snow blanket all winter and so resent any winter wet. Difficult to avoid in the Pacific Northwest! Therefore they do best in pots under cover where they can be kept dry for the winter. It is a treat to see one in flower. Richards states in his book *Primula*, that "at the time of the 4th Primula Conference of the RHS I in 1928 it was one of the only species to have been cultivated for some considerable time." So, though it is exotic, and not a long-lived plant, it has been around a while, and can still be grown fairly easily from fresh seed.

For primrose fanciers there was a very satisfactory array of plants on the show benches and this was enhanced by the appealing, mossy display by the British Columbia Primrose Group, arranged with finesse by Roxanne Muth. Pat Foster turned up with two blue auriculas for the display, in memory of Thea Foster, who died recently. It was a touching moment. All in all, it was a great introduction to the spring season.

Vancouver Island Rock and Alpine Garden

Spring Show, April 9-10

Every year as members bring their plants in to stage them the night before, and the show tables look so empty, one wonders if there can possibly be enough for a show. And always, there is. The winter of 1999 lasted a long time, and even with the few sunny days, in early April the air was still cold. Plants are behind other years. My theory is that the air is cooled by all the snow in the giant snow packs in the mountains. But that should be good for *Primula*. And there were some treasures to be found at the VIRAGS show.

The Farinosa section, which includes the Bird's-eye primroses, was well represented. Both *P. farinosa* and *P. frondosa* were there, along with *P. darialica*, *P. modesta fauriae* and the prize winner, *P. farinosa xanthophylla alba*. This stands about four inches tall with small, perfect white flowers, each with a hint of yellow in the eye. This tiny treasure won best plant for the rock garden for Atholl Sutherland-Brown.

In the wild this plant is found in the Irkutsk region of eastern Siberia but luckily seed can be obtained without an exotic trip. The Farinosa section is widespread in Europe and across Asia, being found in the British Isles in Lancashire, Yorkshire and Northumberland, according to John Richards, in his book, *Primula*. From Britain it extends to regions of Scotland, Scandinavia, Spain, France and Germany and on to Siberia. Cultivation, by gardeners who favor the small but exquisite primroses, is more than possible as the plant, though not long lived, is easy from seed.

The late spring meant we still had *Primula denticulata* in flower. The color-range extends from violet-blue through to dark purple and even white. This is a reliable garden plant, and will survive winter cold spells with no problem as

Show Winners 1999



Victoria – *Primula hirsuta* awarded Best Primula – grown by Maedythe Martin



Vancouver show – Miniature *polyanthus* 'Butterball' – grown by Ian Gillum



Best European Species – Cy Happy

Washington State
National Show



Best Named Show Auricula – Cy Happy

Best Gold Lace – Thea Oakley



SHOWS - Continued from page 22

we have learned from the growers in Alaska, where *P. denticulata* abounds in gardens.

A fine example of *Primula sinopurea* was admired for the deep purple color of the flower atop the mealed foliage. This native of western China is a showy garden plant, but requires heaps of leaf mould and lots of water in the growing season. Again, this is a primula from an exotic location that can be grown easily from seed.

Other early spring favorites staged included *Primula allionii* and *P. marginata*. A plant of *P. allionii* 'Pink Ice' in full bloom makes a lovely picture of a spring alpine house primula. The variations of the leaf form of *P. marginata* are always a source of wonder. These reliable early spring primula grow happily in pots for years, require little attention the rest of the year and should be found in every primrose-lovers collection.

One other species primula was in full glory - *P. hirsuta*. A pot-grown specimen, obtained 10 years ago from the society plant sale, won Maedythe Martin the best primula in show award. Easy to grow but rewarding, this European native spreads satisfactorily into a good-sized specimen in no time.

In Victoria for years there has been a *P. x pubescens* hybrid called 'Appleblossom' (nothing like the one in England) that has regularly been a show winner. Hans Roemer collected seed from this a couple of years ago and was able to stage the seedling this year. The parent has an attractive low-growing habit, and the flower is palest pink, with only a hint of color at the edge of the petals. The offspring has the same flower form with longer stems, but it is a deep violet blue, with particularly dark attractive buds. There is no predict-

ing the results when you hybridize a hybrid!

The cool weather meant the *auriculas* were not in full flower, but a few early examples represented the class. Tony James brought a fine blue garden *auricula*, his favorite in garden *auriculas*. A double yellow was found in the double class, and two show *auriculas*, a Douglas black self-seeding with silver meal, and 'Colonel Champneys,' the old green edged with the curious purple ground color, grown since 1895, represented the show *auriculas*.

In the *polyanthus* classes the winner was a large plant of gold-laced *polyanthus* of fine form. An added benefit was the lovely scent. This won best *polyanthus* in show for Hammish Robertson. A fine plant of 'Garry and Guinevere' was also a prizewinner in the class. One Cowichan seedling was of so dark a color as to be almost black, particularly the color zone around the eyes. Of delicate character, this was an eye-catching plant.

Double primroses have been micropropagated in the last few years and this means plants are readily available to growers. There were a number of fine examples: 'Sue Jarvis' and 'Dawn Ansell' in particular. But some of the old favorites were also on display such as 'Bon Accord,' which originated in Scotland about 1900 and has a place in primrose fancier's hearts because of its long history in gardens. Another colorful double was 'Marie Crousse,' magenta with fine silver lacing around each of the dozens of double petals and also splashes of white. Tony James had acquired this plant with some difficulty a number of years ago, but finds it to be a reliable perennial in his garden.

There were a few *Julianas* including a magnificent plant of 'Lady Greer' in a 12-inch pot. Atholl Sutherland Brown

SHOWS - continued on page 26

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SHOWS – continued from page 24

says he has found a perfect place to grow them, for all summer they reap the benefit of his neighbors watering system! Whatever the situation, the *Julianas* grow like cabbages for him.

One *Juliana* was a curiosity – a typical low-growing small-leaved *Juliana* with a tomato red flower but with a yellow dot in the notch at the edge of each petal. The yellow dot is explained by the plant's parentage. It came up in a batch of gold-laced *polyanthus* seed from England, Maedythe Martin explains, and was likely the result of an errant bee getting into the breeding program. The question is, can the lacing be induced to develop further than just the yellow dot. Obviously some further hybridizing is required.

The supermarkets abound with primroses every spring and there are always some attractive plants that catch the eye and end up in the garden of primrose-lovers. Joe Harvey succumbed but was disturbed by the lack of longevity of the plants. He happened to have some of the classic wild primroses growing and began crossing the two strains. This year he was able to stage the first results of the breeding program – two plants, one with a pale yellow flower and one with a butter yellow flower. Both had a larger flower than the wild form and, hopefully, more vigor to withstand the winter than the supermarket varieties. Stay tuned – more news to come next year.

The species primroses, *P. veris*, the wild primrose and *P. elatior*, the cowslip were also on display, the latter in fine form in a huge pot. Spring truly had arrived in Victoria. ❀



Best Asian Species – Thea Oakley



Best Garden Auricula – April Boettger



'Best Novice City of Bellingham Julie'
– Elaine Malloy

National Show Winners - Washington State

Seed Collecting

By Ian D. Scott, - Scotland

On a cold, dark and damp January evening you'll probably find me cheerfully adding to my seed collection. No, it's not a tale of devil-dare, risking life and limb, searching the snows of Inchnadamph for that elusive last seed pod of *Primula scotia*. I'm warm and snug at home sticking primula seed onto sheets of paper. My seed reference collection.

I started this seemingly bizarre pastime several years ago. I was regularly subscribing to seed collecting expeditions so that I could raise plants of species which were not available either through the trade or through the seed exchanges. The quantity of seed was normally enough to provide a dozen or so seedlings. However, the affects of damping off, cold springs, searing summers and slugs soon depleted the numbers. Thus it became crucial to ensure that the plants set viable seed. Paint brushes assisted where insects might forget, swelling seed heads were checked regularly, gathered with fingers crossed and slowly dried. Ah, the moment of truth. The capsule breaks open and out falls... dust? At this juncture there is a serious doubt. Was the seed really that small when it was sown, two years ago? If I'd only kept a few seeds back to compare them! And so an idea was born.

Seeds can be distinguished from each other by their shape, and with nearly a hundred seed samples to compare I began to see some interesting patterns. Species of the same genus seem to have seed of the same shape. *Nivalis* seed is generally rectangular,

whereas *sikkimensis* seed is more the shape of barley, and *muscaroides* seed has a rounded square shape. This in itself is a useful tool in trying to identify wild collected seed which arrives merely labelled as "Primula sp."

When the Alpine Garden Society sent out the first batches of seed from their 1994 China expedition, we tried to match up some of the unknowns. Three collections had a very distinctive shape (like little lemons) which we recognized from our seed reference collection. The seed was a perfect match for color, size and shape with our sample of Cox 6017. We could therefore suggest that they came from *Primula gemmifera* or a close relation.

Within a genus, seeds can also be distinguished by their color. Seed from *Primula concholoba* is a coffee brown color, whereas that from *Primula watsonii* is more of a reddish-brown. Likewise, seed from *Primula nivalis* (TD 94.55) is a much darker color than for *Primula sino-purpurea* (DJHCI-394). Once again this can be useful when looking at wild collected seed. This year's expeditions produced two collections identified as *Primula obliqua*. However, although they were collected in the same locality, one has seeds of a reddish-brown color (CC 2608), while the other has charcoal black seeds (CC 2616). I suspect that the former collection is of *Primula stuartii*. Plants which we flowered produced reddish-brown seed, and until they flowered we were under the impression that we were growing *Primula obliqua*. *Primulae obliqua* and *stuartii* are very similar in leaf and would be even more difficult to distinguish, in seed, in late autumn.

The size of the seed can also be a useful clue. One might have expected the larger species to produce large seeds, but this is not always the case.

SEEDS continued on page 28

SEEDS continued from page 27

Enormous, cabbage-like *Primula denticulata* plants only produce dust-like seed, while the dwarfed *Primula dryadifolia* sheds seed which is five to ten times larger. There appears to be more consistency within a genus. All the *muscaroid primulae* have seed of a comparable size, and the plants themselves are fairly uniform in stature. With the *nivalids*, the largest seed comes from *Primula nivalis*, closely by seed of *P. sinopurpurea*. The seed gets small as you go through *Pp. leucochnoa* (melanops), *sinoplantaginea*, *brevicula*, and *macrophylla*. Even so the small seed of *Primula tangutica* does not suggest the romping muckle plant that will result, and I might have expected greater things from the large seed of *Primula tschuktschorum*.

It's a pity that few herbarium specimens are accompanied by a specimen of seed. It might prove useful.✿



Jackanapes

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See article on page 18



Sepaloid Green Primrose



P. Viridis, the Green Primrose

Journal Report

By Mary Frey - Kent, Washington

The Real Francesca

It was of great delight in mid-June to not only receive an old-fashioned letter but to also see that the postmark was from the U.K. Tom McCrea answered the question I posed about the green flowered primula 'Francesca'. He writes that the late Dr. John Kerridge commercially introduced 'Francesca' by tissue culture in 1997. Francesca Darts was a friend of John's who rescued the primrose from public park employees. Apparently, they were planting polyanthus plants in a Portland, Oregon park when Francesca discovered they were going to discard the green blooming flower.

Mr. McCrea describes 'Francesca' as "pin eyed with a very thick yellow tipped pin (there does appear to be any pollen) the anthers are short and flat. The flower is lime to a light lettuce green in color and does not open full, giving it a somewhat fluted appearance. The whole plant is attractive rather than pretty." The plant is mentioned in Peter Ward's *Primroses and Polyanthus*.

My thanks to Tom for this intriguing story and the neat 'Doctor Who' stamp on the envelope.

Pretty primula portraits

The April 1999 *Garden Gate* features an excellent article devoted to primulas. Timothy Skeers briefly describes eight of the easiest varieties to grow including *P. denticulata*, *P. sieboldii*, *P. pulverulenta*, *P. bulleyana* and *P. vialii*. However, he fails to mention the short-

life of the latter.

The article is well illustrated and contains twelve color photos.

Skeers also discusses designing and culture of these favorite perennials. A unique idea for keeping soil wetter in areas with extended hot spells is to poke holes in the bottom of a container, such as a small pool, sink it in the ground and fill it with humus-rich soil. Primroses and companion plants can then be planted. Water-retaining polymers are also suggested although their effectiveness is unclear. Finally, APS member April Boettger, of A Plethora of Primula, advises using *P. sieboldii* in regions with hot summers because of their early dormancy.

Primula authority Jim Jermyn recommends and describes primulas for a British audience in April 1999 *Gardens Illustrated*. However, we Yankees can learn and apply much of Jermyn's historical and cultural counsel. Yet, there is a contradiction between the cultural tips in John Richards' *Primula* and in some of Jermyn's suggestions. For instance, he writes that "one of the finest" plant of the petiolares group is *P. whitei* but Richards claims this species "is never seen today." Jermyn advocates using both *P. boothii* and *P. reptans* despite Richards' warning that the former is not hardy and the latter "as an extremely tricky species."

I quibble. This is a good companion piece to Timothy Skeers'. It is also well-illustrated and Jermyn includes the geographic origins of his primula preferences, which usually helps in cultivation. He recounts seeing *P. allionii* growing blooming on south-facing cliffs in the Maritime Alps of southern France and the challenge of recreating this environment. Primroses, he concludes, offer "a prime number of garden plants for a variety of situations."

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Double your pleasure

I've got to have this plant. The April 1999 *Plants: A Journal for Plant Enthusiasts* reports that a new double flowering *P. veris* 'Katy McSparron' is making its way across British garden centers. Geoff Nicolle, a retired headteacher, crossed the wild cowslip with a semi-hose polyanthus then recrossed the progeny over a period of years. Thus, he developed "the old forms of cowslip known to our ancestors as hose-in-hose, pantaloons, jack in the green, jackanapes and jackanapes on horse-back". The result is a virile plant with tightly bunched double yellow blooms. Where in the United States can we buy it? Anyone? ❀



ABOVE: Divided Calyces

RIGHT: Jack in the Green with Divided Calyces



See article on page 13

Primrose

In Norfolk, a noted poultry area, it was thought dangerous to bring fewer than thirteen primroses (*Primula vulgaris*) into the house in the first spring posy. If a smaller number were picked, this should be the number of chickens each hen would hatch. Spiteful neighbors might give a child a single primrose to take home, ensuring that one egg only would hatch.

A primrose plant fed with bullock's blood would have red flowers. If planted upside down on Good Friday, it variously developed a darker flower, a red or pink flower, or a red one with a yellow eye. In Norfolk primroses and cowslips thus treated turn into each other. Children who ate primroses would see fairies.

On May Day primrose balls swung on cows' tails in Ireland to disconcert witches. On the Isle of Man children strewed protective primroses. Primrose balls hung over thresholds, or 'drashies,' were the correct Quantocks cottage decoration on May Day. No witch could pass them. The essential hoop-like, luck-inducing garland to welcome spring in North Yorkshire was of green leaves, primroses and buttercups, never removed, merely left to wither and fall where it hung.

Woodmen in Hampshire and the New Forest, famous for their 'cut ointment,' made of primroses boiled in lard, used it to treat their own injuries. ❀



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BOTTOM:
P. Viridis, the Green Primrose
Photo submitted by Margaret Webster

TOP:
Fused corolla
Photo submitted by Margaret Webster

