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Cover Picture — *Papaver miyabeanum* — Carol Ann Kearns
Princeton, New Jersey

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Southeastern Sun and Sand

Pam Harper
Seaford, Virginia
Pictures by the author

Gardening in coastal Virginia brings delights and disappointments in a more or less balanced mix. The one repeated lesson is that there is no continuing status quo. Plant A may prosper for several years, plant B languish; then this is reversed. Sometimes the cause is obvious. *Saxifrage veitchiana* seemed content with dry shade until a drought year all but finished it off. *Halimocistus sahuicii* was massed each May with patellas far more sparkingly white than anything achieved in detergent advertisements, but a very wet year put paid to that. But why did *Arctostaphylos uva-ursi* wait until I had said in print that it wouldn't grow here in sun and sand before taking off like Jack's beanstalk? I know it is slow

to establish . . . but five years! My willingness to play nurse to reproachful invalids is diminishing, for so many other plants await their beds. Announcing firmly "last chance" and setting a deadline brings an improvement surprisingly often, if not I lend support to the obvious wish to shuffle off this mortal coil.

It should come as no surprise that plants indigenous to the acid sands of the Southern Coastal Plain do better than most. After listening to Norman Deno talk about sand beds it occurred to me that I didn't need to make one, only to refrain from tampering with what I'd got. Sand beds must, in my experience, be free of tree and shrub roots. Where such competition exists I go the

other route, adding quantities of humus-forming material, mulching well, and using plants with shallow roots. There are plenty of these for shade and none better than *Chimaphila maculata*, which pops up of its own accord in steadily increasing numbers. Sites on the south or west facing side of surface rooting trees and shrubs remain my problem areas. Little does well unless the bed is remade every few years, removing encroaching roots and digging in copious quantities of peat and leafmold. A few plants that are fighting it out without this help include *Phlox subulata*, junipers, *Forsythia 'Bronxensis'* (I think; it has grown much faster than books suggest), and *Potentilla tridentata*. *Rubus calycinoides* can be added to the list nine years out of ten, but it shed all its leaves in a rainless summer. Watering facilities do not permit the growing of many plants dependent on this. Even in periods of drought the soil in the sand beds is seldom dry six inches down except where I have raised the surface level.

Kalmia latifolia has been an expensive disappointment. What surfeits or lacks occasioned the demise of several selected forms I do not know but they



Conradina verticillata

died back branch by branch until moribund and consigned to the rubbish dump. Still, fairground philosophy says what's losses on the roundabouts is profits on the swings and the sandhill laurel, *Kalmia hirsuta*, likes what I have to offer. It flowered first when three years old and has done so every subsequent July. The dusty pink flowers are half-inch replicas of the mountain laurel's, emerging from the leaf axils along the twiggy stems of a sprawling fifteen-inch evergreen bushlet that looks as if it would self-layer but doesn't, nor does it respond to the pegging down of branches. Stems, calyces, petioles and half-inch pale green leaves are all bewhiskered with silky hairs. It has survived summer drought and was not damaged at 5°F, but of three young plants put out one autumn only one survived, from which I surmise that Zone 8 may be its cold tolerance limit. In the Southeast many shrubs make a second flush of growth in the cooler days of September. Cuttings of sandhill laurel taken in October from this rather soft wood, stuck in peat and sand in a plastic-topped propagator, root in a cold frame by spring. Raising it from seed is a bit of a performance. Richard Jaynes describes his procedure in *The Laurel Book*, to which I am indebted for the information that a decoction of the leaves cures canine itching and mange, a persistent problem for most dog owners in the flea-infested Southern States.

The self-layering propensity of *Hypericum lloydii* gives it the name creeping St. Johnswort. In summer a myriad bright yellow little puffs adorn flattened mounds of bright green needle-like leaves on twigs so delicate they break when stroked, or under the weight of rain. North Carolina is the northern extent of its range, and Zone 7 its probable garden limit. Definitely a shrub for sun and sand, and so is *Conradina ver-*

ticillata, which continues to be one of my most successful plants. Massed in a ground-covering patch, it is never unattractive and becomes spectacular in late spring, when the aromatic rosemary-like leaves are hidden beneath lavender labiate flowers which are themselves enhanced by contrast with an adjacent patch of golden marjoram, *Origanum vulgare* 'Aureum', bright yellow in spring, later golden green. *Conradina* stays youthful longer if treated like heathers, trimmed back each year, at the same time sifting sand and peat among the twigs. Old, woody plants can be rejuvenated by digging them up and replanting with only an inch or two of foliage protruding. New roots develop on each twig just below soil surface, so this is also an easy method of propagation. On heavy soils the plants might rot and it would be wise to fill the planting holes with peat and sand.

Two evergreen blueberries have done extremely well. *Vaccinium crassifolium* has the same stringy habit as *Sedum sarmentosum*. Small, glossy oval leaves are ranked along unbranched yard-long stems that I'd like to see cascading down a wall. Lacking a raised bed of sufficient height I grow it on the flat, limiting its sprawl by gathering up bunches of stems as if they were hanks of hair and cutting them back to about a foot. It is doing quite well in a slightly raised bed in partial shade, but much better in sun and sand. *Vaccinium myrsinites* is found in Southern pine barrens. One, in rich moist soil, grew leggy and succumbed to root rot. In a sand bed a four year old bush, trimmed lightly now and then, is a dense yet dainty hummock fifteen inches high and about two feet across. The leaves are small, pointed and shining, turning red and copper in autumn. The pink urns of spring are followed by dark fruits, unexciting and inedible.

A charming little herbaceous plant of



Centrosema virginianum

the Southern Coastal Plain gets tossed about between the names *Tradescantia rosea*, *T.r. graminea*, *Cuthebertia rosea*, and *Tripogandra rosea*. For size, restraint, charm and ease of cultivation I give it ten out of ten as a rock garden plant. From a compactly rhizomatous root comes a tuft of rushlike leaves less than six inches high. In July flower stalks of similar height are tipped with bright pink tradescantia-type three-petaled flowers about half-an-inch across. The clumps just about double in size each year.

The rampant growth of *Campsis*, *Bignonia capreolata* and *Wisteria*, as wayward below ground as above, has made me wary of vines, but the spurred butterfly-pea, *Centrosema virginianum*, could safely be allowed in the rock garden. So lightweight are the widely spaced trifoliate leaves that the slender twining stems climb grass stalks without toppling them. Butterfly-pea is usually found rambling over the ground in sunny meadows but will climb to about



Zephyranthes candida

four feet if given support. A string will serve, or the slender rails of an iron fence. A cylinder of chicken wire supports one of mine, and I am experimenting to see if others will ramble over and beautify the useful but mundane ground covering junipers. The flowers are parlor-maids' aprons of aster violet, with a white central bee guide leading to the stamens tucked beneath a surmounting parrot-beak structure. Up to four flowers in axillary clusters open one at a time in early September, fading by early afternoon. *Centrosema* is plentiful in the meadows of Yorktown Battlefield and there I found a white one, but though I photographed this and thought I had fixed its location I could not find it again when I came to search for seed.

The most helpful and accurate wildflower book I have found for the

Upper South is William Carey Grimm's *Recognizing Flowering Wild Plants*. The descriptions all sound as if the writer had actually seen the plant, which shouldn't be unusual but is. I quote his description of *Aster linariifolius*: "Savory-leaf Aster and Pine-starwort are other names given to this aster. It has a tuft of stiff, roughish, minutely hairy stems six inches to two feet high which are branched above. On them are numerous and rather closely crowded, very narrow, stiff, rough-margined leaves. The larger ones are three-quarters to one and a half inches long, the upper ones being reduced to rigid bracts. The flower heads are solitary at the ends of the erect or ascending branches; each one about an inch across, with from ten to fifteen bright lavender rays. It grows in dry sandy or rocky open places, blooming between September and November. Range: New Brunswick to Quebec and Minnesota south to Florida and Texas." Mine, a gift from Dick Redfield, grows little more than six inches high, is sticky to the touch, flowers in midsummer and, if then cut back, again in late September.

Southeastern wildlings are little known and grown, even within their own range, because they have been commercially unavailable, an omission which the donor of many of mine, Bob McCartney, has sought to remedy by joining a mail order nursery selling nursery-raised plants of the Southern Piedmont and Coastal Plain. (Woodlanders, 1128 Colleton Avenue, Aiken, S.C. 29801.)

By and large, plants endemic to the area are likely to do best, but not always. *Zephyranthes atamasco* grows wild hereabouts, but it needs a soil more consistently damp than I can provide. The South American *Z. candida* is a mite hardier, and much more adaptable, happy in the sand bed if this is enriched with peat and leafmold. There was

murder in my heart when a kempt square yard of bright green, slenderly rounded, never-untidy leaves was reduced overnight to inch-high stubble. A neighbour's feral cat having reduced the rabbit population, the zephyr lilies now bloom again. A spasmodic flower or two may pop up at any time through summer but the massed display of six-petalled three-inch satiny white stars on foot high stalks comes in late August and September. I have read that flowering clumps should never be disturbed. My experience is the opposite. One bulb begets six or more in a year, and flowers get fewer if crowded clumps are not divided. Doing this at flowering time is cavalier treatment they seem not to resent. The bulbs do not sink deep, and the fleshy white roots are quite short and not entangled one with another. A clump lifted with a hand trowel almost falls apart of its own accord, ready for quick replanting.

There are other "foreigners" in the sand beds. *Zauschneria californica*, with gray foliage and scarlet tubular flowers in autumn, is succeeding here after failing everywhere else I tried it. It will not survive here if the roots get dry when summer temperatures are in the nineties. Far, far finer than any other *Zauschneria* I have seen is the hybrid 'Dublin', a fairly recent addition to English gardens. I brought one back but put it out, small and vulnerable, the autumn preceding a winter of record-breaking lows, an unfair test which it did not survive.

According to English friends dittany of Crete, *Origanum dictamnus*, ought not to survive winters here, but it has. My own misgivings centered around the likelihood that the rounded, gray-felted leaves would mush in summer. So far this hasn't happened either. It is a neat little clump, with six inch candelabra of hoplike heads from which extrude small pink tubular flowers in late summer.

Nearby is *Aurinia (Alyssum) saxatile* 'Dudley Neville Variegated', which Inghwersen's Manual says "appeals to collectors of curiosities but lacks any real garden merit". I disagree. The white-edged leaves are attractive all year, the pale apricot flowers of more subtle appeal than the gaudy basket-of-gold. It does share the same shortcoming — premature old age. Acquired in a three inch pot only a year ago, it is already a sizeable clump and will obviously need frequent renewal. Cuttings root easily.

Across the path, in another sand bed, is what I think must be *Penstemon hirsutus* 'Minimus' or 'Pygmaeus'. (According to Hortus II, this should be known as *P.h. pygmaeus* — Ed.) Whatever its name, it's a gem, robust yet with grace. The leaves, similar to *P. hirsutus* only



Penstemon hirsutus pygmaeus



Allium thunbergii 'Ozoke'

smaller, make a dense basal rosette which is evergreen here, purpling in winter. Sprays of smoky-mauve flowers in May and June are short and spreading, and the stems glisten with silky hairs. It looks nice next to a golden variegated lemon thyme, but this gets a bit bedraggled by midsummer.

Witness to the charm of my smallest onion is the size of the planting — quite small despite the fact that the bulbs multiply rather fast. Everyone who sees it bags a bit. Though this may be the same plant as *Allium splendens*, it came as *Allium thunbergii* 'Ozoke'. It grows about six inches high and flowers in

autumn. The bulbs are planted in sunken bottomless coffee cans to provide some protection against tunnelling moles. Besides it is *Jasminum parkeri*, defoliated last winter but looking perky again.

Finally, two similar sedges that are not in the sand bed but in richer soil with a little shade. Here they are usually handsome the year around, though becoming a bit shabby at temperatures below 10°F. *Carex morrowii* 'Aurea-variegata' makes arching clumps of quarter inch pleated blades a foot or more in length, very pale yellow, or very rich cream (the overall effect is golden) with a pencil-line rim of green. I use it in large, front-of-the-border patches, but in the rock garden one clump alongside a small pool would be appropriate, or the dwarf *C.m.* 'Aurea-Variegata Nana' might be preferred. The other is identical in size and habit, but with narrower leaf and variegation reversed to dark green with a fine white rim, the effect silvery. I had supposed this to be *C.m.* 'Variegata' but have mentally filed, for confirmation or rebuttal, the suggestion that it may be *Carex conica* (certainly it is not the species described under this name in *Hortus*). Confusion is being compounded because one nursery is distributing it as *Carex graminea* 'Variegata', a confusion with a wee variegated *Aconus*. Roger Grounds, in *Ornamental Grasses*, says *C.m.* 'Variegata' differs from 'Aurea-Variegata' only in that the variegation is white (not, apparently, reversed, or with narrower leaf), but his description of the species itself fits my silvery plant. Can anyone who really knows send our Editor a paragraph on the subject? §

Let's celebrate our 50th with 500 new members.

Some Poppy Kin

Geoffrey Charlesworth
South Sandisfield, Massachusetts

Drawings by Carol Ann Kearns, Princeton, N.J.

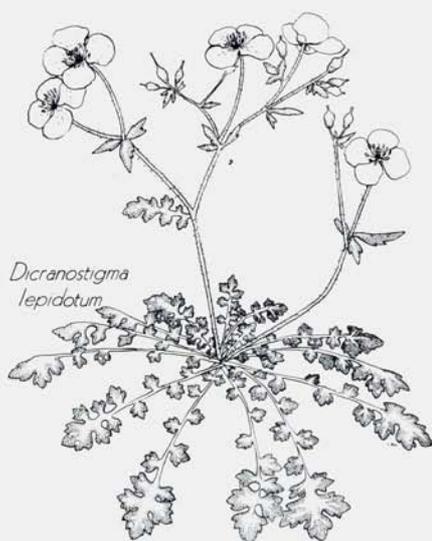
Only occasionally do the pundits warn against a plant or group of plants. One reason, I suppose, has to be the permissive, noncontroversial nature of gardening (*pace* R. Farrer). Perhaps another reason is that nearly all the plants we introduce into our gardens are essentially controllable; only local weeds are permanent residents against our wishes. One can live with obstreperous plants once it is realised this problem exists and once war is finally declared. But if you are like me you never completely eradicate any of these overbearing beauties and my garden seems destined to be the permanent home of *Campanula punctata*, *Verbascum wiedermannianum*, *Lobelia syphilitica* and *Lychnis orientalis* either because I fail completely to notice them or I lose my resolve and allow them just one more season. It is nearly impossible for me to pull up a plant in flower or just about to flower.

There are many such splendid adversaries in the Papaveraceae. The sole horticultural challenge of some of the members of this clan seems to be to keep them on the premises without allowing them to take over, much like students in the sixties. With this well understood, I would like to recommend a few more or less rampant residents of my garden.

Papaver miyabeianum (or *P. faureii*) is a six-inch lemon yellow poppy from Japan with intricate gray-green leaves like a cake doily. It appears to be a

perennial with a long, long season of bloom and while it has the expected overproduction of seed it is not as aggressive as some of those poppies that arrive labelled "alpinum". These smaller poppies sow themselves into nooks and cracks in the most disarming way but beware of allowing them the short time needed to put down a long, thick tap root next to a precious androsace or even close to a sturdy dwarf conifer, because the pretty leafy mat will kill the one and in extricating the root you will kill the other. If you have a very large garden grow the handsome *Papaver caucasicum* with its great candelabra of orange flowers, which seem to last only a day, but are constantly replenished in great profusion for weeks on end.

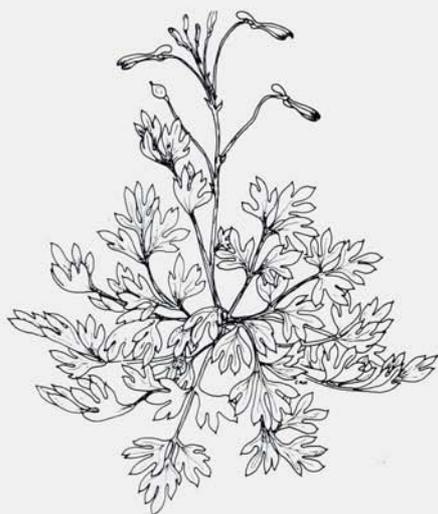
There are a number of Papaveraceae which are easier to control and definitely worth trying. I have had *Roemeria hybrida* for many years with no trouble. It is a wispy annual but of a clear red that adds unusual color to the summer garden. *Dicranostigma leptopodum* is a good, late, yellow annual or biennial that continues flowering into October. Grown in poor soil the plants remain attractively small, six inches or so, and if you want something with more substance put your seedlings in better soil. The flat leaves are deeply cut like those of a dandelion with rounded lobes. It is easy to pull up if it invades but is not usually lethal to nearby mats and buns. Another annual "poppy" I have had and



Dicranostigma lepidotum

one of the monocarpic meconopsis and I have it planted with primulas with afternoon shade. The beauty soon departs if you leave the pods on, so you have to choose between aesthetics and propagation. Late in the summer the foliage is as unattractive as oriental poppy leaves, but revives in the fall along with the primulas. There are many other meconopsis to try, but getting them past the seedling stage is troublesome. When the seed germinates I take the pot out of the ubiquitous plastic bag and if the seedlings come up thickly, which is more than likely, I transplant them in clumps. Feed with a little dilute fertilizer, otherwise they tend to sit in the pot without growing much for weeks on end. If they do stop growing, my experience has been that you will probably lose the entire crop. By August some of the seedlings in the clump will be big enough to transplant. Otherwise do what Virginia Briggs recommended in Vol. 38. No. 1, p.40, which is to leave the clumps over the winter.

It may be cheating in an article about poppy relatives to include the following,



Rupicapnos africana

✓ would love to grow again is *Eschscholtzia caespitosa*, a minute fragile waif that stayed two seasons, then fled. Next time I shall give this pale yellow beauty a place of honor in full sun on the sand pile or raised bed.

A little heartier and hardier is *Stylophorum diphyllum*, somewhat reminiscent of a magnified *Hylomecon japonicum*. *Stylophorum* has a long season and interesting fat drooping seed pods, which you should remove if you don't want too many plants to give away. Both *stylophorum* and *hylomecon* like some shade and their bright yellow flowers will stop visitors at the edge of a woodland area. Sometimes the stopped visitor will confuse *stylophorum* with weedy *chelidonium*, but *stylophorum* has larger blossoms and more substance and grace.

If you live north of Hartford and higher than a thousand feet, grow *Meconopsis betonicifolia*. This most beautiful blue poppy could never be classified as a dangerous weed. The glorious flowers appear in early June, but not until you have the plant for two winters. It is not

however some botanists consider the Fumariaceae as only a sub-group of the Papaveraceae, not as a separate family, so I have taken this as license to expand this article on poppy kin to include a few members of the genus *Dicentra*.

Dicentra eximia has a handsome white form that comes true from seed, often listed as 'Snowdrift'. Like the normal pink form it requires a good three feet of space and will invade as brashly as the pink, frequently to kill its close neighbors. There is also a pink form of *Dicentra cucullaria*, which is as modest and retiring as the normal white form. This rare Dutchman's Breeches has been found in Pittsburgh, Pennsylvania among other places and in 1972 plants of it were rescued at the site of a new road then being bulldozed. It requires a couple of years for the tubers to settle down before they produce the quaint stained jewels in early spring. Plant the

tubers in a woodland situation noting their location carefully as the top growth dies back in very early summer.

In this same subgroup is a plant that looks very much like a dicentra, *Rupicapnos africana*, a native of Spain and North Africa. This comes quite easily from seed, but the seed is not often listed. It will flower the first season, producing pale pink trumpets nestled in a milky green bouquet, each trumpet marked with an almond shaped blotch of purplish slate that shades through maroon into the pink. Since it is doubtfully hardy in our harsh climate, keep some of the crop in the alpine house or frame over the winter. It probably would overwinter where temperatures do not go below 20° F.

Of course the Poppy Family is enormous and this note only mentions a very few of its members that I have enjoyed growing. §

More On *Astilbe microphylla*

Michio Cozuga of Nagoya, Japan has written to assure us that *Astilbe microphylla* does indeed grow in Japan. (See note, Vol. 40, p. 111.)

Mr. Cozuga reports that *Astilbe microphylla* is endemic to Japan, where it grows in low mountainous areas, mainly in grasslands with moderate moisture and sunshine. It is 50 to 80 centimeters tall, according to Mr. Cozuga, with much shorter flowering branchlets on its panicle than other astilbe species. The flowers are a light pink in contrast to the generally white flowers of other species. Its leaflets are usually oval, are not cuspidate and do not come to a sharp point.

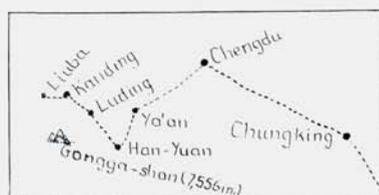
He tells me that some Japanese alpine growers have a small astilbe that is said to originate in Korea. This astilbe is said to be a small type of *Astilbe microphylla*, 'Tanna' or (? 'Hanna') and that this plant, which he has not seen, could possibly be *Aruncus aethusifolius*. He will check it out when he can get a plant to study.

Plant Hunting in Sichuan, China

Part II

Carla Teune
University Botanic Garden
Leiden, The Netherlands

Photographs by the author



On Wednesday, September 9th our start was very early, because today was *the day*. For our transport and the transport of our tents, food, and other gear there were two Chinese mini-buses, a big lorry and two jeeps available.

On our way from Chengdu "to the unknown" we again saw how busy people were working in the fields to harvest root-stocks of lotus. This is an edible rootstock, very much loved by the Chinese: it tastes very good and is a little bit "crispy". The long, thick, white root-stocks were carried away in wheelbarrows, a very muddy job. We passed many large and small villages and tried to identify the plants that people grew for food or other purposes. Around every village you could see big clumps of bamboo and a kind of bean (*Dolichos lablab*) growing on lattice-work. Big orange pumpkins lay on the straw roofs of the small houses, baking in the sun. From this fruit not only is the orange flesh used in cooking various dishes, but the seeds are dried and salted, cracked

between the teeth and eaten. They are considered quite a delicacy. On our way we met several old ladies, selling pumpkin seeds for very little money. Giant red-coloured radishes grew in little fields, and always cabbage and Chinese flowering cabbage. People were cultivating small fields of jute and tobacco (*Nicotiana rustica*). At this time of the year the leaves of the tobacco plants are hung on "washing-lines" to dry. People in small villages smoke this home-grown tobacco and sell it on the markets.

We arrived before lunch-time at the town of Ya'an, the place where we were to stay for the night, which gave us an opportunity to walk in Ya'an and have a good look at a small Chinese town. We had a splendid lunch in a rather poor (but very clean) hotel. Our hotel, or rather guest-house, had tiny rooms, each for two people, and it was very cosy as we all lived on the same floor. In the courtyard of our guest house was a splendid and very sweet-scented shrub of *Osmanthus fragrans* 'Coccineus' in

flower. The Chinese use the flowers of this shrub to mix with tea-leaves, in the same way as they make jasmine tea. *Magnolia denudata* grew there also and in one of the trees masses of a tiny *Pyrrosia* fern covered the branches, but too high for me to gather either plants or spores. There were bushes of pink and purple flowering *Lagerstroemia indica*, a *Platanus x acerifolia* with a splendid peeling bark, a *Citrus medicus*, with big fruits, a young specimen of *Ginkgo biloba* and some other trees like *Tristania robusta*, *Podocarpus* sp., and a *Euonymus* hedge. Seeing all these "rare" plants surrounding our hotel tells clearly of the great love that the Chinese have for all kinds of plants.

We were not allowed to take pictures in Ya'an while we were walking around; this town had not been open to foreign tourists for very long, but nobody could give us a reason for not taking photographs. "Rules and regulations" was always the answer to our questions. Ya'an seems a very small, provincial town on first sight, but our guides told us that this city has more than 200,000 inhabitants and is much bigger than we realized. As we were the first foreign group to walk freely in Ya'an, doing some shopping, we were followed by hundreds and hundreds of people who stared at us, pointed, or laughed. At first this was no problem, but after a while it was really overpowering; luckily none of us suffered from claustrophobia. We were heading to a big department store in the heart of town, where we hoped to be able to buy some volumes of *The Flora of China* in five volumes. In Canton we had had no luck, but here someone was so kind as to point out the right direction to the shop, and yes, there were books and even the *Flora*. As I was the only one who possessed these books, I went behind the counter, took a dive in several rows of books and finally produced

the volumes we all wanted so very much. The shocked lady understood what I intended when I asked her for more volumes of the *Flora* and produced them from behind a curtain, so many members of our group were made happy. The Chinese in the shop got a show, lovers as they are of the theater. It must have seemed to them a sort of book-auction, featuring some sort of a clown.

On Thursday, September 10th, we departed for a smaller town called Han-Yuan and we noticed that we were very slowly coming into the mountains. We all enjoyed the beautiful landscape: rolling hills, very soft and not so harsh as the very high mountains. On our way to Han-Yuan we made several stops, but the "highlight" was our lunch break as we were allowed to walk around in a promising mountain area for almost three hours, taking pictures and collecting plants, as much as we wished. This place was very rich in plant-life, all very rare, some even unknown. It was densely covered with small shrubs (rhododendrons), which made walking difficult. We were now at an altitude of $\pm 2,000$ to 2,600 m and we found shrubs of *Berberis gagnepainii*, *Pyracantha* sp. (with orange berries, as well as with bright yellow ones) and I collected a lot for Boskoop.

Quercus dentata occurs here and we collected ripe acorns and wrapped them in damp moss to prevent them from drying out. We also collected seed of *Cotoneaster bullatus*, *Coriaria chinensis*, *Codonopsis* sp., *Buddleia davidii* (a good old garden friend), *Spiraea bella*, *Salix bockii*, and the big, globular, green fruits, thorned like a hedgehog, of *Rosa roxburghii*. We found an *Actinidia* cf. *kolomikta*. The true *A. kolomikta* does not occur in China, but this one has the same leaves, with partly pinkish white tips, so we are curious about the name

of “our” plant. Taller Paul Meyer snatched the fruit of *Actinidia sinensis* from over my head, but I found *Hosta* ? *ventricosa*. As it had no flowers on it, exact identification was impossible—still, “Good luck”, says Roy. We found a purple flowering, climbing plant of the Gentian Family, *Tripterospermum affine* (alas, no seeds) and a low growing *Aconitum* sp. on the banks of a small stream where *Rosa* sp. with large leaves (and terrible thorns as I found out painfully) grew; also *Enkianthus deflexus* with clusters of unripe fruits, a *Begonia* sp. and a tiny member of the Gesneriad Family. *Ligularia wilsonii* and *Taxus wallichiana* were two other interesting plants, as well as a dark blue-flowering *Swertia* sp. (from the Gentian Family). *Gaultheria hookeri* (covered with strange blue colored berries), a *Viburnum* sp., *Rhododendron racemosum* (how beautiful this slope must be when

these rhodos are flowering in early spring). *Berberis wilsonae*, *Ilex* aff. *yunnanese* were among the shrubs. There was also a tiny gentian with clear blue, stary flowers, a small purple-flowered pedicularis and another pedicularis with (according to my diary) pale yellow flowers. There were any number of other plants: an unknown *Ligustrum*; a clear blue-flowered *Halenia* sp. (another relative of the gentians); *Corylopsis* sp.; *Rosa omeiensis*; a tiny, ground covering creeper, *Hemiphragma heterophylla* with tiny red berries (that also grows in Nepal according to Roy). There were a *Polygonatum* sp.; *Hydrangea villosa*; and in another place on the slope, *Hydrangea heteromalla*. I got lucky again and this time found the rare *Acer stachiophyllum*, but with no seeds, though Roy, Alison, Rosamee and I searched for them. At another stop, closer to Han-Yuan, we found *Abelia*



On the road between Ya'an and Han Yuan.



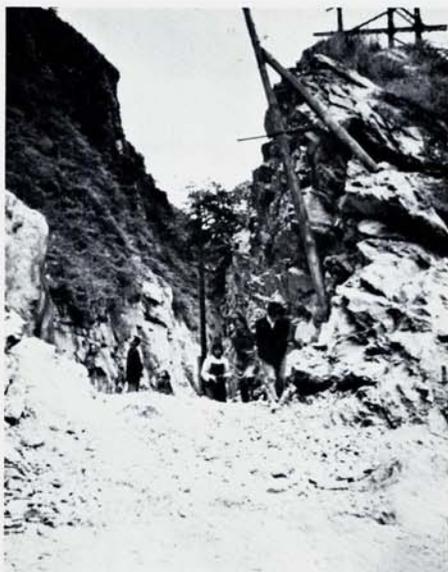
The gang grabs a bite to eat after collecting plants and seeds on surrounding hills.

chumeana, *Dipsacus asper* (a species with almost white flowers), *Magnolia sinensis*, *Cynoglossum amabile* (hairy, with azure-blue, really borage-colored flowers), *Meliosma cuneifolia* with black berries, and a *Rubus* species with almost transparent, orange fruit. There was only one berry and it was edible.

Later on I found a *Rhododendron calophytum* under a big rhododendron (species unidentified) that saved my life by catching me when I fell down a steep slope. On a small plateau where we had lunch, we found a low growing, pink flowered epilobium and *Lycopodium clavatum* with a transparent jelly on the new roots. We also found another *Leontopodium* sp. (Edelweiss), some purple flowered asters (but not *A. sinensis*) and a pachysandra. It was our best day so far and afterwards we compared our plants, tried to give them the right names (not very easy), and exchanged seeds. I had also collected a fine selection of ferns.

Our guest house in Han-Yuan was simple, clean and sufficient for our comfort with the usual tea in a thermos, wash basin and buckets of hot water. This was the first place we had stayed where our rooms were kept locked, which is usually unnecessary in China as stealing is very heavily punished. As we were not used to locking our door we frequently locked ourselves out and had to ask for assistance from the "key lady". That night at dinner our Chinese guides announced we were collecting too much and if we continued to do so they would call the trip off and we would have to return to Chengdu. After Roy and Theresa argued with the guides they agreed we could continue providing we collected more carefully and did not show our special plants in the open.

We left the guest house at 8 o'clock the next morning, September 11, after another very good Chinese meal. We all



Tidying up a rock slide.

realized that we were being spoiled as far as food was concerned; even the best was not good enough for us as the Chinese wanted to make a good impression on us. Food is very important to the Chinese people. They are fond of eating a good meal and, as we all know, are able to prepare delicious dishes. Chinese food in China is quite different from western-style Chinese food in Europe or the U.S.A. Of course in a poor, overpopulated country such as China, the Chinese never eat meals such as they gave us.

After about one and a half hours of driving we had to stop because of a landslide caused by the heavy rain during the last few days. As there would be a considerable delay while the road was repaired our guides gave us permission to walk around and collect plants and seeds and take pictures (quite contrary to the story of the previous night). This was an almost subtropical area, much wilder and rougher than the rich area where we collected yesterday; it looked

very promising. We were on the edge of a swift-flowing river, on the opposite bank of which lay a small industrial town. The slope was rather steep, with some very big boulders, ideal for botanising, and we indeed found a lot of interesting and beautiful flowering plants and shrubs. We were given ample time to collect before lunch, but after coming back we were told that the road was still not cleared of rocks, so we started on another climb. The plan had been that we would have lunch in Luding and stay for the night in Kanding, but at 4 p.m. we were still plant-collecting on "our" slope, when we heard that the road could again be used. We shook hands with the workers from the commune, who had done their best to clear the road of the masses of fallen rocks, and took pictures of them before continuing in the direction of Luding.

Our "harvest" from this place was impressive. We collected several beautiful ferns. I collected spores as well as fronds to make identification easier back home. I also found a flowering *Ceropegia* sp. (in Dutch so aptly called "Chinese Lantern Plant"). This plant was winding its slender stems in the branches of a pink-flowered *Lespedeza* standing next to another pink-flowering shrub, *Desmodium* sp. (both members of the pea family). Wolfgang, the German plant collector, found lily bulbs and a plant that looked very much like the European *Paradisica liliastrum*. And it was Wolfgang who found our first orchid: a *Bletilla* sp. I was happy to collect some cones from a young *Keteleeria davidiana*, a conifer with beautiful bluish-gray-green needles.

Halfway up the slope was a small farm house in which nobody was home. Near it was a young tree of *Paulownia fargesii* and Rosamee took a picture of me with one of those very big leaves; only my head, hands and feet remained visible!

Under a big boulder I found some begonia plants, looking very similar to the small bedding plant *B. semperflorens*; these had corms that I collected. I really fell in love with a very dainty, lavender-flowered Gesneriad. Perhaps this is *Corallo-discus crassiforme*.

During the day the temperature rose and we could work in our knickerbockers (or bluejeans) and T-shirts and feel very good. While exploring along the small stream we found a different flora, much thicker growth and not very easy to climb over or walk through. There was an unknown *Viburnum* sp. covered with berries, and again we saw the yellow-fruited *Pyracantha*. One of the members of the group found a fan-shaped *Iris* sp. and we saw some beautiful rosettes of *Selaginella*, very similar to the "Rose of Jericho". There was also another blue-flowering *Cynoglossum* sp. and a slender, climbing *Polygonum* with slender spikes of white flowers. *Quercus variabilis* formed a dense, shrubby mass, and there were unknown climbing plants that nobody could identify, also a spicy-smelling member of the Labiatae Family. From this last I managed to collect glossy, black seeds. The very low-growing annual with pink flowers, *Polygonum capitatum*, well-known in our country, grew very densely on this spot and we were all very impressed by this lovely plant.

After our "second start" we encountered many problems, because one of our mini-buses had engine trouble several times. This gave us a chance to leave the bus, walk on the road and do some "roadside botanising". We had been slowly climbing higher into the mountains and we began to see some new plants along this macadam road. We were travelling through a ravine with very steep slopes, so it was impossible to collect many plants, but we were lucky to see a beautiful, two meter high



A dainty, lavender-flowered Gesneriad.

Lobelia nicotianaefolia, growing with an unknown *Sedum* sp.

In the river big tree trunks were floating downstream without human help. We got the impression that very high in the mountains the Chinese forestry department was chopping down an area with gigantic trees and we hoped that the area would be replanted. There is a very large re-forestation campaign in China, which has been going on for several years. The torrent was swollen by the heavy rains of the last few days. These rains had also caused big holes in the road, which made it very difficult to drive in semi-darkness and slowed our speed, so that we arrived at 9 p.m. in Luding instead of arriving there at lunch time. As we all were very tired, including our good chauffeurs, and as one bus had to be repaired during the night, Theresa asked permission to stay overnight in Luding. This proved to be a difficult problem for the Chinese, but after talking with the drivers, they agreed we could stay in a very nice guest house.

This appeared to us to be the remnants from an old monastery. Luding is a very small town with a famous 13th Century chain bridge. We managed to go out and visit the bridge and walk over it, which in pitch darkness was quite an adventure. The bridge hangs over a tributary of the famous Yangtse River. On both sides of the bridge there are temples with red lanterns, so it is easy to find the bridge in the almost dark city.

After this visit we returned to our hotel, where we sat on benches in the courtyard, where the atmosphere was quiet and peaceful. As we had collected so many plants and seeds during this eventful day, it took me until 1:00 in the morning to finish my work, make notes, etc., but the Americans, who had collected much more because they always worked as a group, went to bed at 3 a.m.

On Saturday, September 12th, we



When the bus broke down, we had a few minutes to collect and take pictures.

rose at 5 a.m., which meant it was pitch-dark in Luding. We packed our bags and took our belongings to the lorry. There was no breakfast this time so we had something to eat while we were on the road. Eating at such an early hour did not attract us very much anyway.

After a short while "the bad bus" had the same motor troubles as on the previous day, and again we had ample opportunity to walk around, only this time more frequently, as the troubles increased. We got trained to a new routine: bus stops, we jump out and run into the mountains, bus hoots, we run back, climb in the bus, drive away—the quick scattering technique. The plant world changed noticeably, and in fact we were very happy to stop so much as it gave us a good chance to collect some rare and unknown plants. We found — almost out of flower because of the end of its flowering season — *Incarvillea arguta*, a low, shrublike plant with beautiful pink, bell-shaped flowers and lots of long seedpods full of seeds. There were splendid orchids and beautiful ferns and an unidentified small plant with brown flowers, belonging to the Gesneriad Family. Here we found *Clematis* for the first time, still in flower but with hardly any ripe seeds. Ray Evison, our clematis specialist, dug up a young plant. Finally our mini-bus gave up and we decided to leave it behind for repair. This was easier said than done, as we all (22 persons plus some of the luggage and rucksacks) had to go in the one remaining bus. We were sitting on luggage, on packing cases, on each other's laps with rucksacks on our knees, on the floor and even on the motor, a very warm place. Not the most comfortable way to travel, but we managed to reach Kanding, where we could take a walk and stretch our stiff limbs.

Kanding is a very old mercantile town, lying between China and Tibet. It is the

last big Chinese city “on the main road” to Lhasa. It takes seven days by coach, so we were told, to drive from Kanding to Lhasa. This city lies high in the mountains and the famous plant collector, E.H. Wilson, visited the city at the beginning of our century and called it Ta-Tsien-Lu (after the river of that name). He even took some photographs of the city and it looks very much the same now, except that recently the Chinese have built some ugly factories and other buildings.

The old houses looked very Tibetan, with little balconies (like small Italian loggias) and splendid wood carving. The people were mostly Tibetan, with some (imported?) Chinese. We were stared at, but now we were used to it. (In fact we would miss it, if the people did not stare at us.) Theresa and I decided to “explore” the city, which meant that we were looking for a lavatory. But how do you explain your need to go to a certain place when you cannot utter one word Chinese or Tibetan? We “talked” with hands and feet, made squatting motions in front of one of the ladies and she understood us very well and pointed out the right direction. It was another terrible loo, but great fun anyway. Tibetans, we noticed now and later, are a very kind, gay and helpful sort of people, tending to laugh—when there are no Chinese around.

Very slowly our courageous minibus continued its way over very difficult roads, higher and higher into the mountains. The greatest part of the road was good, very well kept, only the heavy rain had flooded parts of it and made holes in it. We realised how much work it requires to keep these endless roads in good repair under stormy and rainy conditions and the melting snow in spring. Everywhere we saw small groups of people working on the roads, repairing them with pieces of stone and mud. It

was planned for this day to cross the very high Zhe-duo Pass, at an altitude of 4,300 m, and drive to Liuba, a small Tibetan village in the mountain area of Gungga-Shan (Mt. Minya Konkga). Our overcrowded minibus had many problems to cope with, but managed to keep going until some members of our group asked for an extra stop, because some of us did not feel well on account of the high altitude. The Chinese guide was looking almost green, and I myself felt very giddy and sick. We had a little walk on the road and it was at that exact moment that our bus decided not to go on. It was more than an hour before the two jeeps returned – they had missed us – and so we were once again plant-hunting, waiting for the bus to move.

This was a good occasion to collect plants from a very high altitude and although we felt not exactly happy, we all managed to crawl over rocks, make photographs and collect plants and seeds. Roy and I found plants of *Rheum alexandrae*, a white-flowering rhubarb that makes striking bracts. Luckily there was some seed still on it; most of it had already been eaten, probably by mice. Seed of this plant, when received from botanic gardens, is not always fresh or is not true, so we were very happy to get these seeds of wild origin.

This whole area was greyish-green in colour, because of the dense growth of low-growing rhododendrons. In a swampy area we found a low-growing, star-shaped plant: *Saussurea stella*, a purple-flowering member of the Compositae Family. Theresa “made” the day when she found a dark-purple flowered *Meconopsis* sp., the only one in flower.

As I had one of the worst cases of high-altitude sickness, Theresa ordered me to take a seat in one of the jeeps, together with herself and Ray Bomford. Peter Bristol, another “victim”, climbed in the other jeep. After driving down for



Purple-flowered *Saussurea stella* on Zhe-duo Pass.

some hundreds of meters I felt much better and was able to get out and take some pictures when we halted for stretching our legs.

The landscape was splendid, very high rocks, not many trees, and every now and then a small Tibetan village with Tibetan houses. This area is the Tibetan part of Sichuan Province – not “the real Tibet”, which is still another Chinese province. The houses are built with very thick walls and have a high, chimney-like watchtower. The window-sills are always painted white in a special way. Sometimes we met curious people and once we encountered a herd of yaks shepherded by two young Tibetan girls with beautiful dresses on and splendid jewels in their hair.

During one of our stops we collected a *Delphinium* sp. and different species of *Gentiana* – one a tiny, flat-growing plant with star-shaped, very small yellow flowers. In the woods we saw *Hippophae salicifolia* with both orange and bright yellow berries, something we had

never seen before. A splendid bush was formed by a low-growing *Quercus* species, *Q. semicarpifolia*, an evergreen with leathery leaves, their undersides covered with golden hairs – a striking beauty. We collected some ripe acorns (there were not many) and wrapped them in moss, as we all wanted to bring home this outstanding shrub.

Then, all of a sudden, our bus stopped. It had started to get dark as it was 7 p.m., but this time we were told that we had arrived at our destination: a meadow, ten minutes from the small Tibetan village called Liuba, at an altitude of 3,500 meters. After this very long and tiring day we were cold and hungry, but the first thing we had to do was to set up camp, pitch our tents, make beds, unpack, etc. This proved to be less easy than it sounds. Contrary to what we were used to from well-trained Nepalese Sherpas, the Chinese were not used to setting up a camp and so we had some difficulties in the fast descending darkness. It is impossible to explain what fun we had making our



A tiny gentian with yellow flowers.

little field-beds by "candlelight", and pitching brand-new, unfamiliar little nylon tents without tent-pins. Thanks to our clever American friends we finally got all our tents "pegged down" by using pieces of rock instead of pins. (It would have been impossible, we realised, to get pins into the hard rocks.) In the darkness, ghostlike shadows walked around hunting for big rocks for their tents, stooping and cursing; frequently it was no rock, but yak manure instead.

Finally, after many tent collapses, our camp was set up. The Chinese had prepared a sort of meal and hot tea. We helped set the tables and had a cold supper by candlelight – very romantic – consisting mainly of tinned fish, pineapple and pears, sausage, cookies and hot tea. We all thought that a good night's rest was well earned and decided that next day, a Sunday, could be used for a rest, washing clothes or a voluntary tour into the mountains with Roy. §

(To be continued)

Insect Encounters of a Pleasant Kind

Sharon J. Collman
Seattle, Washington

When last I wrote (Vol. 40, No. 3, p. 141), I said it was difficult for a non-rock gardener to write about insects in the rock garden. But as I sat listening to plantsmen and plantswomen enthral the audience at the 1982 Winter Study Weekend sponsored by the Columbia-Willamette Chapter of ARGS, it occurred to me that the reason it was difficult was that I felt obliged to focus on the pests of the rock garden.

Watching the slides of Steen's Mountain, the Wallawas, Siskiyou and Columbia Gorge it dawned on me that I am more fascinated by the many insects associated with the choice plants of the alpine regions than by the plants themselves. Suddenly my mind and pen were off and running at all I would share with you.

I have spent many hours in rock garden meetings and study weekends watching outstanding slides. From the lectures and slides, one might conclude

that the alpine zones are devoid of insects, except of course mosquitoes or biting flies, yet the insects abound in the alpine areas. I am convinced the alpine photographer unconsciously sends an insect tumbling tail over antenna with a flick of a finger in order to present the perfect alpine. What could be more perfect than a photo of alpinists at work, providing pollen and nectar in return for the genetic variety of some other flower's pollen.

Of course in fairness to the alpine photographer, my slides of alpine plants represent the other extreme: flowers covered by insects. Surely between us lies the alpine reality, of plant and insect interactions blended with all the other relationships in the alpine ecosystem.

The alpine meadows are rich with butterflies, many kinds of bees, syrphid flies, parasitic wasps and beneficial yellowjackets. (Oh yes, there is such a beast. Alpine yellowjackets have not yet

learned of the "convenience foods" available at the local dumpster or picnic.)

Yellow and black is a color pattern repeated often. I've yet to read why this color pattern is so popular among the alpine longhorned beetles, syrphid flies, click beetles, moths and many others. Is it mimicry of waspishness? Or was the wasp mimicking another insect?

For the entomologist (a person with an interest in insects) *Heracleum lanatum* is not a cowparsnip with large white umbels but rather a plateau of nectar and pollen pastures eagerly grazed and sipped by an abundance of wee beasts.

The family Cerambycidae — a family of beetles — is a particular favorite of mine. On Mt. Townsend in the Olympic Mountains of Washington two species are common on cowparsnip: *Pachyta armata* (a broadshouldered, black and yellow beetle) and *Cosmoselia chrysocoma* (a velvety gold beetle). *P. armata* has a black head, thorax and legs. The wing covers (elytra) are gold, tipped with black. Both beetles have characteristically long antennae which give Cerambycids the common name of long-horned beetles.

The adults graze on pollen and, in return for the feast, aid in pollination: pollen grains stick to the hairs on the abdomen. The female beetles will seek out dying or dead conifers and lay their eggs on the wood. The larvae — called round-headed borers — tunnel through the wood, sometimes for several years, aiding in the decomposition process. (Dr. Mark Deyrup has written an excellent article on the succession of creatures in a log in *Natural History Magazine*, March, 1981.) The borers themselves

become food for parasites, predator beetles and woodpeckers.

Back to the cowparsnip, I have collected bright yellow-and-black-banded "wasps". Trembling, I approached with collecting jar in hand and ever-so-carefully maneuvered the beast inside. (I spent many youthful hours each summer with a swollen foot propped upon icebags — an old remedy for bee stings — so I have learned fear and caution.) Later as the specimens were curated (a very scientific word for sticking pins through their little carcasses), I found they had square heads and no stinger. Had I but looked closer at the time, I could have collected these harmless sawflies without fear.

Sometimes mimicry of bees and flies is complete in amazing detail. But always they are given away by their wings. The Hymenoptera — bees, wasps and ants — have two pairs of wings, while flies have only one pair.

Probably, the insects most noticeable in the alpine regions are the butterflies. Undisturbed by human destruction of their habitats, they are both abundant and diverse. The smallest butterflies are the blues and hairstreaks; the largest are the swallowtails. Watching butterflies (or butterfly collecting) is fascinating and absorbing. For the past two years I have collected butterflies for young lepidopterists (butterfly enthusiasts). This year my new project will be to record plants from which butterfly species seek nectar. I can think of no more pleasant experience than to nestle in the warm meadow with notebook and pen. (Sure beats running pell mell after a fleet-of-flight fritillary.) §

Some Native Clematis

John J. Wurdack
Beltsville, Maryland
Photographs by the author

About three hundred species of Clematis are currently recognized for the world, with thirty native or naturalized (five species) in the United States; these statistics are from a 1982 article published by Keener and Dennis in Taxon. Of these, nine are in subgenus *Clematis* (three naturalized), two in *Atragene*, two in *Viticella* (both introduced), and the remainder in *Vioma*. The subgenera *Clematis* and *Viticella*, all vines, will not be further discussed, other than to note

that the yellow-flowered *C. orientalis* is naturalized in Colorado, Utah, Idaho, New Mexico, and Ontario and twice was erroneously named as a new species (*C. aurea*, *C. cruxflava*). None of the New Zealand species sometimes in ARGS or AGS seedlists have been hardy in Maryland.

Atragene will also get short shrift, although rock gardeners whose summers are less tropical and winters less moist and variable than Maryland's may take



Clematis verticillaris on Stony Man Mt., Skylands, Va.

umbrage. None of the species have been long-lived or flowered well. Certainly however, all the commonly cultivated species are attractive, the best-known being the Old World *C. alpina* and *C. macropetala*. Of the New World species, *C. occidentalis* var. *occidentalis* (synonym: *C. verticillaris*) is a small vine widespread in northeastern U.S. and Canada (west to Iowa and western Ontario), ranging southward in the mountains to Virginia and North Carolina; two other varieties are restricted to northwestern United States and Canada. The typical variety of *C. colombiana* is widespread in the western mountains (Montana to New Mexico and Chihuahua, Mexico). One of the most charming *Clematis* for rock gardens (twice-perished after a few years in our yard), *C. colombiana* var. *tenuiloba*, is native to Montana, Utah, Wyoming, and Col-

orado, reaching its eastern limit in limestone areas adjoining the Black Hills in South Dakota; the stems run shallowly underground, with erect (to ca. 6 to 8 inch) flowering shoots.

The Leather-flowers (*Viorna*), with non-spreading thick tepals, have been of great interest for our garden. Native vining species (recently studied by Dennis) include *C. bigelovii*, *C. crispa*, *C. glaucophylla*, *C. palmeri* (short vine or semi-erect), *C. pitcheri*, *C. reticulata*, *C. texensis*, *C. versicolor*, and *C. viorna*. Erect (non-vining) ones are *C. addisonii*, *C. albicoma*, *C. baldwinii*, *C. coactilis*, *C. fremontii*, *C. hirsutissima*, *C. ochroleuca*, *C. viticaulis*, and *C. socialis* from Alabama, described by Kral in 1982. The group with simple leaves (all New World except the Eurasian *C. integrifolia*, which is commonly cultivated) was revised by Keener in 1967; earlier



Clematis addisonii, Shawville, Va.

studies on this complex were by Wherry (1930, 1931) and Fernald (1931, 1943). Of the Leather-flowers, we have flowered ten; we do have seedlings of several of the others, thanks to ARGS seed exchanges and Mrs. C. W. Harvey, whose Kitchener (Ontario) garden is a testimonial to the hardiness of southern species.

Seeds of *Clematis* are often slow to germinate. From experiments later confirmed by Lela Barton at Boyce Thompson Institute, Platt reported secondary epicotyl dormancy (root developing the first spring, shoot the second spring) for three shale-barren species, the seeds in peat moss out-of-doors for twenty-two months. Bernard Harkness (ARGS Bulletin, Fall 1975) gave for *C. fremontii* sowing-germination 23 Oct. 1974-21 July 1975. Our own recent results (with many others earlier unfortunately not recorded) from outdoor sowings in light loam are: *C. albicoma* x *coactilis*, 5 Jan. 1979-5 July 1979; *C. coactilis*, 10 Feb. 1980-30 Mar. 1981; *C. texensis*, 13 Feb. 1977-1 Oct. 1977; *C. viticaulis*, 22 Dec. 1975-10 Mar. 1976. Thus the secondary epicotyl dormancy is not absolute. In our garden, *C. coactilis*, *C. addisonii*, and *C. versicolor* (abundantly) have self-sown; other species have perhaps not had a chance, all or most of the fruits being harvested for seed exchanges. Insects, particularly crickets, often chew off the seeds just before ripening, so we usually prop up the fruit heads in early fall.

All of the Leather-flowers grown in Maryland have been long-lived (up to twenty years) except *C. baldwinii* and *C. texensis*. Erikson reported four to five years from seedling to flowering plant in *C. fremontii*. All are probably self-fertile. None of the limestone species seem to have any pH stringencies in acid garden soil. Flowering times given below are in our garden.



Clematis albicoma in the garden in Beltsville, Md.

Clematis addisonii is native to a very restricted limestone area in southwestern Virginia. Anna M. Vail's first collection (near Roanoke) during a 1890 spring trip to the Virginia mountains was *C. addisonii* (named for the co-author of the *Illustrated Flora of the Northern United States*). Vail was the librarian at The New York Botanical Garden and also a taxonomist; after a falling-out with Mrs. Britton over alleged cigarette smoking in the library stacks, she lived most of the rest of her long life in Paris. Plants of *C. addisonii* are 12 to 18 inches, often somewhat reclining, the stems brittle and sometimes broken at ground-level by rain. The young leaves are glaucous (sometimes slightly compound), the tepals outside deep pink-purple; flowering is for several weeks in May.

Clematis albicoma is restricted to shale-barrens in eastern West Virginia and western Virginia. Plants are 12 to 15 inches tall, the tepals purple-pink; flowering is in May, starting before *C. albicoma*; *C. ochroleuca*, and *C. viticaulis* are quite similar, the identifying

features mostly in the fruit hairs.

Clematis baldwinii (Pine-hyacinth) is known only from peninsular Florida, growing in pine-flats. Plants are usually 8 to 15 inches tall, the leaves simple or dissected, the long-stalked flowers pale to deep purple. Alas, this attractive species has not been hardy.

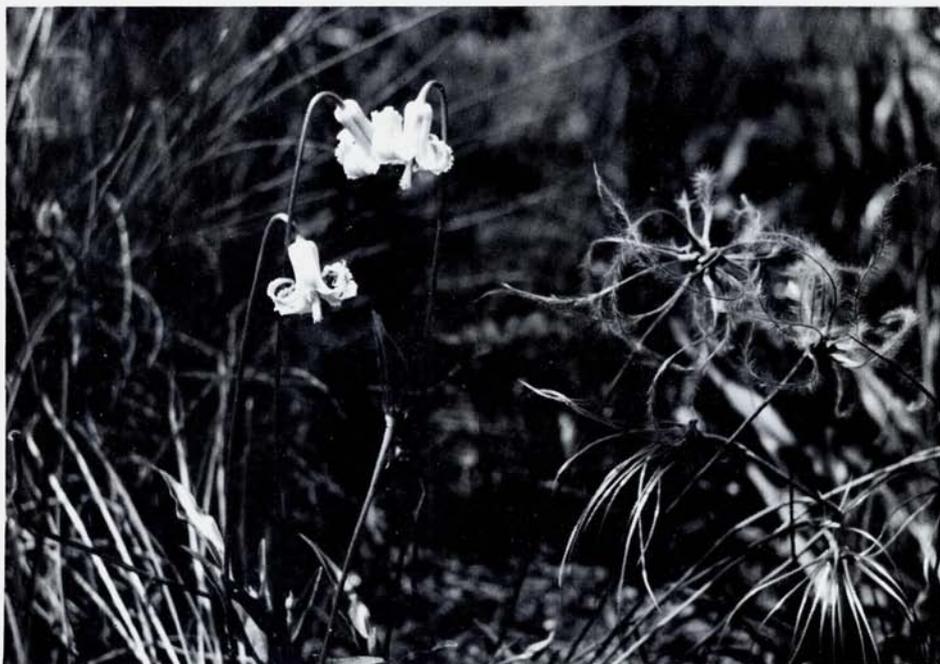
Clematis coactilis is a narrow endemic in the Virginia shale-barrens (one locality on limestone) with the habit of *C. albicoma* but the leaves quite hairy beneath and the yellowish tepals densely covered with fine white hairs. Flowering starts somewhat later than *C. albicoma* and continues sporadically until fall. A natural hybrid between *C. coactilis* and *C. albicoma* is known.

Clematis crispa (Blue-jasmine, Curl-flower, Marsh-Clematis, Curly-Clematis) ranges widely in moist soils throughout the southeastern coastal plain starting in

southern Virginia, and extends westward to southern Missouri and Illinois as well as eastern Texas and Oklahoma. Plants are short vines 3 to 6 feet, often flowering when quite small, the tepals with crisped margins and variable in color (nearly white to rose and bluish-purple); flowering starts in June and continues at intervals throughout the summer.

Clematis ochroleuca (Curly-heads) is the most wide-ranging of the erect eastern species with simple leaves, from New York (Staten Island) southwards in the Piedmont to central Georgia, usually in open dryish woodlands. Flowering is in late May, the tepals varying in color from yellowish to deep purple.

Clematis texensis is a small vine rather well-known to gardeners, with a natural range on limestone in the Edwards Plateau of Texas. The flowers are bright carmine to scarlet (with several hybrids



Clematis baldwinii at Boca Raton, Fla.

with other species known); flowering starts in June and extends over much of the summer. Both Pam Harper (ARGS Bull. 37: 147. 1979) in Virginia and Mrs. Harvey in Ontario have outstanding success with *C. texensis*.

Clematis versicolor is also a small vine, ranging mostly on limestone from Tennessee to Missouri, Arkansas, and Oklahoma. Young leaves are somewhat glaucous, the rose-colored flowers freely produced over a long period (June-September). Some of our early seed distribution of *C. versicolor* was under the name *C. glaucophylla*; the latter however is a distinct species of the deep South, the seeds of which have not as

yet been in the ARGS exchange.

Clematis viorna (Vase-flower) is a small or medium-size vine, native from Pennsylvania to Illinois south to Georgia and Texas, mostly in well-drained sites at woodland edges. Flowering is intermittent during the summer (late June-September), the flowers usually deep purple.

Clematis viticaulis is of very restricted distribution on the shale-barrens in two counties of southwestern Virginia. The tepals are purplish-lavender; flowering is in late May, usually well after *C. albicoma* and *C. ochroleuca*. As with all the simple-leaved species, the roots are deep in the rocky soil. §

Draba Polytricha

Hardy (?) Alpine Jewel

Dr. Daniel C. Weaver
Hamden, Connecticut

From *Hortus III*: *D. polytricha*. Ledeb. Cushion-forming per., to 2 in., rosettes dense, many, hairy; lvs. densely imbricated, linear-lanceolate, to 1/2 in. long, white-hairy; fls. yellow, in 4-10 fld. racemes; silicles ovate, to 3/16 in. long, inflated, on pedicels to 1/4 in. long. Caucasus.

In the introduction to the genus, *Hortus II* alludes to difficulties in identification and specificity of draba. Consequently one may expect quite different forms within the species, as indeed I note in *D. polytricha* from different sources. These differences are seen most easily in foliage and flower color.

Draba polytricha flourishes in the alpine-house and is cherished, as is *D. mollissima*. Both are choice. Both are natives of the Caucasus. To my knowledge *D. mollissima* will not survive garden culture in northeastern United States.

Although I have grown *Draba polytricha* (alleged) for some years, a recent question pertained to authenticity and hardiness. Several years ago Mrs. Joel Spingarn (Ellie Brinkerhoff) took a cutting from my oldest plant. It thrives now with Pricilla Galpin at Oliver's Nurseries, Fairfield, Conn., where Frank Cabot identified the plant. Other cuttings survived in Georgetown, Conn., where weather may be more severe than in Hamden. On the other hand, it does not do well outdoors for Linc Foster in northwestern Connecticut. The question: Can a hirsute, alpine cushion survive Con-

necticut's miserable winters, with unpredictable snow cover, and hot, humid summers? What price buns, polsters and cushions?

One problem lies in assuming *D. molissima* (interestingly not listed in *Hortus II*) and *D. polytricha* are both alpine-house plants. Fortunately my alleged *polytricha* is a sturdy plant. It performs well in scree and in coarse sand. My first plant grows in a traditional compost with foliage supported by rock chips. It is on a slight slope, is well drained and has rocks handy to sprawl on. This fifteen year old plant is assaulted in spring and fall by falling locust blossoms and leaves. These are carefully removed, but often after seven to ten days of smothering. Once or twice I have plugged in stone chips when the foliage is lax. Plant diameter is fifteen plus centimeters and height is about three centimeters.

Another plant, better sited, is at least five years old. It grows in a "scree" and receives more sun. This plant, approximately three cm. in diameter, is almost spherical, has very compact foliage and is a darker gray-green. Planted in deep, coarse sand a two-year old plant has less compact foliage, but deeper yellow flowers. All these plants produce almost ses-

sile flowers.

Cuttings from all these plants have been planted in another elevated scree with close rock environment. These plants, now flowering, have slightly more exuberant, but tiny foliage. (They had too little light in the cold frame.)

All the parent plants are within a five foot radius, but receive varying amounts of sun during the summer. Future cuttings will be planted in full sun.

Flowering in my garden occurs from April 1 to April 15 and is earliest on those plants receiving slightly more sun. Foliage is evergreen with minimal seasonal change. This contrasts with *Draba rigida*, which loses its green in my garden. It also flowers later.

My garden conditions test moderate hardiness as previously described in the ARGS Bulletin from time to time: rare snow cover; temperature range from -10° to 100° F; drought to wet with high air humidity common in hot weather; frequent high winds winter and summer; open exposure to all of the above. I have found that *Draba polytricha* will probably survive in moderately cold climates in the open garden and will delight everyone year around. §

New Conifer Society

A new plant society, the American Conifer Society, was recently formed for the development, preservation and propagation of conifers, education of the public, and clarification of nomenclature, with an emphasis on conifers that are dwarf and unusual. There will be a quarterly publication and an annual meeting of the general membership.

For membership information contact the secretary, Mr. Jean Iseli, 15241 S.E. Tickle Creek Rd., Boring, Oregon 97009 or the president Robert Fincham, 425 N. 5th St., Lehighton, Pennsylvania 18235.

Award Winners – 1983

Award of Merit

Betty Ann Mech



It is especially fitting that Betty Ann Mech should receive the Award of Merit at Cornell University where both she and her husband were students some twenty-five years ago.

To talk of Betty Ann is to talk of rock gardening in Minnesota and of the Minnesota Chapter of the American Rock Garden Society, which chapter this year celebrates its 10th anniversary. Betty Ann was one of the founding mothers of the chapter and, indeed, one of the first organizational meetings was held around a picnic table in the Mech backyard. She was naturally the first chairperson of the chapter and served in that capacity for three years. At that time, in all of Minnesota (and there is a lot of Minnesota in Minnesota) there were all of twelve members of ARGs. Within

eight months, according to Betty Ann's first chapter report to the national secretary, they already had fifty members; a treasury of a hundred dollars; were promising a contribution towards the Interim Conference of 1976, and had organized their own slide library with a syllabus to go with it. Betty Ann has been editor of the Chapter's bulletin for all ten years of its existence. She has been active in teaching study groups, organizing tours, presenting programs, leading outings, and at all times sharing her knowledge of growing and propagating alpine plants.

She has been a loyal and enthusiastic supporter of the national organization in ways that have benefited us all. Most recently this has manifested itself in the Seed Exchange where she has been a "driving" force. Here she will proudly talk of the energetic and efficient work of Ken Vogel and the large committee of volunteers, but Betty Ann herself has made a lasting contribution: she prepared and published "A Seed Exchange Manual", which will guide us for many years to come. This workbook is so precise — how many workers needed on October 1, how many postcards and envelopes to stockpile, what to do if Harkness and Hortus do not have the name of a plant, how to make file boxes from beer can boxes, and how much corrugated cardboard is needed to keep the seed envelopes from slipping; even how to get a discount when buying U.S.

postage stamps — that it reminded me, as I read it, of the army manual on how to take apart — and reassemble — the M1 Rifle. All that is missing is the training film to go with it.

I first met Betty Ann at an Eastern Study Weekend when I overheard her mention that she had a nursery. “Do you have a catalog?” I immediately interrupted. “Yes, but I do hate mail-orders!” she exclaimed — not a very encouraging sales pitch. She organized her nursery, Rice Creek Gardens, about a year after the Minnesota Chapter was organized, so that a handy supply of plants would be available to local gardeners. (I soon made western Massachusetts a suburb of Minneapolis.) And listen to this: new members who join the American Rock Garden Society get ten dollars worth of free plants. (This offer is not open to those who resign and rejoin.) So in truth Betty Ann subsidizes many new members of our society. She has also just made available a leaflet for new gardeners to be included in the Welcome to ARGs kit, which goes to new members.

Out in Minnesota, Betty Ann has been pushing for a long time for a rock garden at the University Arboretum and, largely through her efforts, plans for this have now been accepted; while it still awaits funding, with Betty Ann there we know it will come. It will probably already be flourishing by the time we journey to Minneapolis in 1985, because after Betty Ann’s “mumbling” about this to the chapter for a long time, the Minnesota Chapter has agreed to host the Annual Meeting that year. After all, with no seed exchange they will need something to do these next two years.

While no more need be said to justify this Award of Merit, one other great contribution to rock gardening as a whole has been made by Betty Ann, and that comes from her close and devoted association with Claude Barr. After over

ten years of unfulfilled promises of publication, we are finally to get *Jewels of the Plains*. We can surely say that without Betty Ann’s concern and persistence, this book would never have been published. She herself not only saw to its final publication but has contributed to it herself. Her concern for the book and for Claude Barr himself is a most touching chapter in the history of Betty Ann Mech’s commitment to rock gardening, to rock gardeners and to the American Rock Garden Society.

Here then, an Award of Merit — truly deserved and happily bestowed.

— Norman Singer

The LePiniec Award

Robert Putnam



Robert Putnam Dennis Thompson picture

On a pretty summer day in 1969, Bob Putnam was finishing 23 years (as a technical writer) at the Boeing Company in Seattle, thinking what it would be like just to walk away from the job. "I kept looking out the window," Bob says, "and wishing I could join Roy Davidson and George Schenk in the Rockies . . . which I did. It was like getting out of jail."

The tall thin man with the happy blue eyes of a little boy had loved plants for a good while. He gardened in Wisconsin before he and his wife Evy came to Washington in 1941. Moving to Kirkland in 1947, they built the house at the end of the lane where they still live. There is a lovely secluded calm about the property where the Putnams built a substantial rock garden on slopes in front of the house. Evy worked with Bob in the garden and nursery until poor health in recent years kept her indoors, and then Bob built a new scree garden that she could enjoy through the window.

At first the Putnams specialized in primulas, winning many awards for the numerous species they grew to perfection. I know of no one in this country who grows *Primula allionii* as well as Bob Putnam. He has hybridized *P. pubescens*, and one of the best seedlings, a deep terra cotta, he has named 'Evy.' Another golden seedling from the same seedlot is yet unnamed – at present its tag just says "Wow!" Some of his best show auricula seedlings have been crosses using the variety 'Lady Daresbury.' One of these, a large and cleanly marked striking blue-violet, was spectacular the April day I visited the nursery.

As the collection of choice plants grew, the decision was made to sell plants, and The Plant Farm was born. In earlier days plants were shipped; many rock gardeners were disappointed when that practice was discontinued, and now one must visit the nursery to buy plants. The Plant

Farm publishes a mimeographed list of plants available. But what a list!

One will find shrubs such as *Thuja plicata* 'Hilliersii', *Rosa arkansana*, *Rosa luciae* var. *onoei*, *Tsusiophyllum tanaekae*, *Prunus incisa*, several *Salix* species, *Pieris japonica* 'Yakusimanum', *Jamesia americana*, *Leptospermum scoparium* 'Nichollsii Pygmaea', *Podocarpus nivalis*, *Kalmiopsis leachiana*, *Gaultheria humifusa*, *Erinacea pungens*, *Deutzia* 'Nikko', *Buxus microphylla* 'Tidehill', *Coprosma petriei* var. *petriei*. This listing recalls the great specialist nurseries of yesterday, with an assemblage of rock plant aristocrats brought from all parts of the world, an effort that takes a lifetime.

For *Lewisia* there are ten listings, including the rare yellow *L. cotyledon* 'Carroll Watson' and the still rarer *L. tweedyi alba*, which Roy Davidson found at Jack Drake's in Scotland and Bob introduced to Americans. His list has all three species of *Petrophytum*. Under *Potentilla fruticosa* he has the special prostrate 'Olympic Mountains Form', and the list includes white forms of *Penstemon cardwellii* and *P. rupicola*.

Roy Davidson's elegant *Epimedium cantabrigensis* 'Little Shrimp' is here, the midget *Hosta* selections Davidson found in Japan, the tiny *Heuchera rubescens* 'Troy Boy' Davidson collected in the Sierras. *Calceolaria* 'Walter Shrimpton' and the rare miniature Japanese *Saxifraga fortunei obtusa cuneata* are listed. One finds silvery *Potentilla oweriana* from the Watson-McPhail Turkish expedition and *Dicentra* 'Stuart Boothman' from England. Bob grows seven *Helichrysum* species, nine *Androsaces*, thirteen *Campanulas*, thirty-eight *Primulas* including seven *P. allionii* forms and hybrids and ten *P. juliae* hybrids.

Still, Bob says, "the little cushion forms are what I really like." He grows *Kelseya uniflora*, *Dionesia aretioides*,

Arenaria balearica, *Asperula nitida puberula*, nine *Drabas* and over forty *Saxifragas*.

How did he assemble it all? Bob says "I'm just lucky to have this collection. How lucky can you be, living halfway between Roy Davidson and George Schenk, with Brian Mulligan stopping by now and then? You can just live off what drops as they pass by." And these friends indeed bring Bob special plants they come across afield or afar for The Plant Farm to list. Others have as well, like the exciting compact *Alnus rubra* 'Dusek Dwarf' that Edith Dusek found, and the richly colored *Synthlipsis reniformis* 'Ollalie Violet' that Dennis Thompson and I found in Oregon.

But on his own Bob has explored for plants in the mountains of Montana, Idaho, Oregon and Washington, whether in company with Davidson and Schenk as on that first Rockies trip, or many times with the eminent botanist John Thompson, particularly in the Wenatchee Mountains. Bob grows seed from all over the world, and is skillful with cuttings. He also adds superior new plants through exchanges with growers in Japan, Britain, New Zealand.

Finally, this man does some hybridizing, such as a landmark 1975 cross of *Lewisia brachycalyx* with *L. cotyledon* 'Carroll Watson'. Three of the four resultant seedlings have now flowered, all very clean and shapely plants, intermediate in size, form and habit between the parents. The color is what stops you,

though — for here perhaps for the first time one finds all the seedlings carrying a glowing straw-yellow color into *L. brachycalyx*. The hybrids are unique among lewisias. If they prove sturdy in the garden they will be highly sought-after, for they have great beauty.

This LePiniec Award winner is sensitive, shy and modest, though with an irrepressible sense of humor. He was shocked when informed of this honor, but pleased. Bob said, "I felt a little like I did one time when I was a kid in Wisconsin. Our town's little theater had a side door, and sometimes we'd sneak in the side door without paying, to see the second show. One night, with the second show nearly through, we looked around and found we were the only ones in the theater. They'd run the whole show for us, and we'd snuck in the back door. We hadn't paid any dues."

Well, Bob Putnam's memory is bad. In the ten years I've known him, he's paid a lot of dues. Sometimes it was as furnisher of plants for chapter plant sales, or as resource person for the 1976 Interim International Rock Plant Conference, or as speaker at chapter meetings or study weekends. Or perhaps it was giving tips to classes visiting the nursery (on how to build troughs, for instance) or just as a friend sharing his great store of knowledge. I am proud to recognize Robert Putnam as the 1983 winner of the American Rock Garden Society's LePiniec Award. §

— Marvin Black

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A plantsman is one who grows well most of the plants you and I find impossible.

Getting Acquainted With North Carolina Flora

Sandra Ladendorf
Chapel Hill, North Carolina

What better way to begin to get acquainted with our new North Carolina home state than to go off on a wild flower trek to the Smokies? Our trip, sponsored by the North Carolina Botanical Garden, was led by C. Ritchie Bell, director of the garden and botany professor at the University of North Carolina.

About thirty of us gathered at the Cradle of Forestry in the Pisgah National Forest May 13th. There we joined Ritchie, his wife Anne and hard working David McCartney, the fellow who cooked our meals and handled all the details for the next three days.

Strolling and botanizing the mile-long path at the Cradle of Forestry was a gentle introduction to the hiking ahead of us. In 1984, those of you attending the ARGS 50th Anniversary Annual Meeting in North Carolina will have the opportunity to stroll the same paths and in June probably have the added delight of seeing the hundred-year-old, twenty foot high mountain laurels (*Kalmia latifolia*) in full bloom. I've been there in July – too late. I've been there in May – too early. June must be just right.

The laurels intrigued me because their ancient stems twisted and coiled high above my head like graceful swirls of calligraphy. Until I saw them in the mountains of North Carolina, my idea of a mountain laurel was the five by six foot, compact, floriferous shrubs that decorated our former home in Connecticut.

At the Cradle of Forestry, the laurels are the middle layer of a three-tiered

plant community. An umbrella of oaks towers high above them, and under the laurels thrives a waist-high stratum of Bearberry (*Vaccinium erythrocarpum*). In spots where enough flecks of light filter through, there is even a fourth layer – small bits of ground cover here and there.

In addition to the flora, common and rare, at the Pisgah National Forest, you'll also have the chance to see where forestry in American had its beginnings. You can sit in the small schoolhouse where Carl Schenck taught his first class of fourteen young men, pounding in botanical theory during the mornings and providing practical experience each afternoon when the class covered 20 miles of the forest acreage on horseback.

Beyond the schoolhouse, we spotted enthusiastic clumps of Squaw Root (*Conophous americana*), a photogenic beige parasite commonly found in N.C. woodlands on oak roots. Soon after we had all crawled around on our stomachs, trying to get the perfect picture with the sunlight behind the Squaw Root, it was time for us to leave the Cradle of Forestry and drive to a remote campground in the Cataloachie National Forest.

The meadow bowl was already dotted with tents, ready for our sleeping bags and gear. Dave soon had steaks and salad ready for our hungry crew, and then, as darkness fell, we all snuggled down into our bags and drifted off to sleep, lulled by the music of the nearby stream and an occasional whuffle from a deer. Like 19th century farmers, we

went to bed with the sun and rose with it. Instead of an alarm clock, the thunk, thunk of Dave splitting wood for the breakfast fire woke us up about six a.m.

After fortifying ourselves with a camper's hearty breakfast, we all donned our hiking boots, filled canteens and prepared for our first mountain hike.

Our leader is an interesting character. Ritchie combines the aw-shucks attitude of a good ole boy and the charm and consummate performance of a con-man, with the erudite, curious and informative mind of one of North Carolina's most knowledgeable botanists. In addition to his popular books *Wild Flowers of North Carolina* and the new *Florida Wild Flowers and Roadside Plants*, he is also one of three authors of the basic and scholarly *Manual of the Vascular Flora of the Carolinas*.

Ritchie led the thirty of us off on a five mile hike up the Big Hemlocks Trail. (Never believe a thing Ritchie Bell says about distances . . . his five miles turned into nine.) Our group ranged from a bouncy nine year old to an experienced hiker of 78. I remember that first hike as an endurance test – a clumsily large group, mundane plant material, a sloggy drive through heat and bugs, to survive, to complete. Ah, but the next day! I usually see the world in shades of gray, but those two days remain black and white in my memory. The second morning our large group splintered three ways, and only a hard core nine of us followed Ritchie off on another nine mile hike, this time up the Mt. Sterling Trail. From the first glimpse of *Trillium grandiflorum* sheeting up the hillside, I was content.

Our small group of enthusiasts admired (and photographed, to Ritchie's dismay) practically every wild flower on the mountain trail. During the early part of our hike, we passed Yellow Star Grass (*Hypoxis hirsuta*), Giant Chickweed

(*Stellaria pubera*) and *Trillium vaseyi*, in addition to the extensive swaths of *T. grandiflorum*. In places the path was flecked with scattered white petals and we looked up to see the Silver Bell Tree (*Halesia carolina*) in full flower. That's a lovely small tree, hardy as far north as Michigan; I remember a beautiful one at Hidden Lake. At one point I picked up from the trail a long, creamy and wonderfully fragrant bloom from *Magnolia fraseri*, which was flowering high above us.

During both days of our hiking, violets were abundant. While a single violet is a modest beauty, an entire bank tightly covered with white *V. primulifolia* is grand and impressive. In fact, in several instances it was the mass effect of plants in the wild that was so eye-catching. I particularly remember one rocky hillside – a scree of boulders – covered with a simple sedum, *S. ternatum*, drifting the entire hill with a snowfall of white.

There was another moister hillside where masses of Shining Club Moss (*Lycopodium lucidulum*) thrived. And near the top of the Mt. Sterling trail, where we climbed out of the heavy forest into more open, meadowy areas, we found mixed colonies of Spring beauties (*Claytonia caroliniana*), Nodding Red Trilliums [*T. vaseyi*] and Trout Lilies (*Erythronium americanum*), more beautiful than a Persian carpet.

On both hikes we saw patches of Bluets (*Houstonia serpyllifolia*). Since Ray and I have some houstonia growing along our driveway in Chapel Hill, that wasn't too exciting, however, I did get excited when we came upon one good-sized clump of a clear white form. It should be propagated as it may not be there next year. Survival is not guaranteed on Mt. Sterling. While the National Park Service forbids hikers to collect plant material, it is doing nothing to

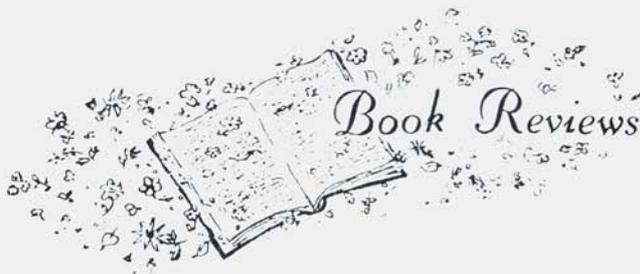
eliminate wild boar that are roaming the higher meadow areas of the mountain, rooting out great areas of spring beauties and all companion plants. Since Ritchie is much more concerned with plants than pigs, he'd like to see some action taken to control the fauna and protect the flora.

Back in the woods we knelt to photograph the last of the Squirrel Corn (*Dicentra canadensis*) flowers and later reached up to take a picture of the lowest Dutchman's Pipe (*Aristolochia durior*) hanging above our heads. The down-hill trail through Pretty Hollow Gap and Turkey George Camp area was particularly beautiful, winding back and forth across a rushing mountain stream banked with lush strands of *Rhododendron maximum*, laurels and ferns.

Both days we admired nice clumps of

Showy Orchis (*Orchis spectabilis*). Pink and yellow cypripediums are also found in this area, but we did not locate any on this hike, though I did spot one Pink Ladyslipper by the roadside on our way into camp. The plant list goes on and on – galax, asarum, *Trillium undulatum* and *cernuum*, *Viola hastata*, *Uvularia sessilifolia*, *Diphylleia cymosa*, *Clintonia borealis*, *Disporum maculatum*, *Streptopus roseus*, *Saxifraga michauxii*, *Epigaea repens* and a few *Rhododendron catawbiense*.

Late in the day, a four foot Timber Rattle Snake crawled across the path and then stopped on the bank and posed for us. It coiled around in classic style, the head rearing up behind the rapidly shaking tail. That rattle is one of life's unforgettable sounds, topping off a most unforgettable trip. §



Rock Garden and Alpine Plants

by Raymond Foster, 1982. 256 pp. 39 color plates, line drawings by Rosemary Wise. David and Charles, Inc. North Pomfret, VT. \$31.50

With no preface there is no way of knowing what the author intended as his audience for this book and this question still remains after reading the text. To avoid any possible confusion with our own H. Lincoln Foster, it should be pointed out that this book was made in England and that the author and his

intended readers probably garden in the U.K.

This is not a reference book. The order of the chapters is novel and interesting, but not conducive to retrieving information on either plant material or horticulture. Nor is it a book for beginners since the cultural notes are widely dispersed throughout the book and not indexed. The specialist, too, would not care for the many errors and the lack of substance in some of the chapters.

Nevertheless this is a handsome book

with attractive color photographs and line drawings and its charm lies mainly in the ordering of the material. We are taken on a world tour of rock garden plants starting with Europe and travelling east until we arrive in the eastern United States with a very brief excursion into the Southern Hemisphere, and hardly even time for lunch there. The book should be considered as a good read rather than as a reference and, indeed, it is for much of the time. As long as the author remains on home ground in Europe and the Middle East, he is convincing and seductive, but after getting us this far on the tour one suddenly gets the feeling that the rest of the world is a very small place horticulturally speaking. The bulk of the chapters on Japan and North America are about dwarf conifers, those lovable freaks which we cram into our gardens to give scale. Very little space is given to the rich flora of the U.S. West; even lewisias are disposed of in a sentence listing a few British "hybrids" of *L. cotyledon*. We are told, however, how to propagate these.

The book is useful for European and Mediterranean plants and reminds us which plants are likely to be hardy by grouping them not only by geographic origin but by the mountain zone in which the plants grow. This might be helpful in California, but a gardener in the north-eastern United States would have to look for code phrases such as "needs a warm niche" to realize when a plant is unlikely to stand a New England winter. The non-European chapters are also useful, not because the rest of the world is a landscape of sedums, primulas and dwarf conifers, but because the author clearly knows and loves these plants and passes on some of his knowledge and enthusiasm. Even then care is needed as many of the rhododendrons recommended would fail north of Long Island, N.Y. and you would have trouble with

most of his primula recommendations except in the Northwest.

The photographs are enticing, but not connected to the text by reference pages in either direction. The index seems unhelpful and skimpy until you realize that the plants themselves are indexed separately in a Table of Rock Plants. This table is not likely to help a beginner, however, who would find that *Primula nutans* and *Prunella vulgaris* need the same treatment. The worst news for beginners is the list of fifty easy plants, which includes quite a few weeds and is listed alphabetically by common name. (One entry is *Nana Gracilis*.)

I like the information on soil types, the emphasis on geography, and the propagation hints. All these should be enjoyable to a gardener with a little experience and access to other reference books. Among debatable claims we find: *Calluna vulgaris* 'Foxii Nana' can be mown annually; androsaces have flower clusters similar to those of primulas; *Galanthus elwesii* is confined to the Middle East; *Tulipa biflora* is an "Asian hill plant". Some statements are not true: *Erophyllum lanatum* does not have "tiny yellow daisies"; *Sisyrinchium douglasii* is not an eastern U.S. plant.

Buy the book if you collect unusual garden books, if you are able to adapt English horticultural lore to conditions in your own garden, and if you can afford the rather high price, but not if you want a reference book and certainly not as your only book on alpine plants.

— G.B.C.

The Rhododendron Species, Volume I, Lepidotes

by H.H. Davidian, 1982. The Rhododendron Species Foundation and Timber Press, Beaverton, OR. Order from The Rhododendron Species Foundation, Federal Way, WA 98003, \$59.95 plus \$3.00 postage.

This first volume of a proposed three volume series covering in detail the genus *Rhododendron* is an impressive and sumptuous work by H.H. Davidian of the Royal Botanic Garden, Edinburgh. Mr. Davidian, in this first volume, confines his attention to the large number of rhododendron species classified under that primary division of the genus known as the Lepidotes, those with scales on the leaves, branchlets and flowers.

Because most of the rhododendron species of dwarf stature that lend themselves so elegantly to use in the rock garden fall in the Lepidote classification, it is quite fitting that this scholarly work be brought to the attention of fellow rock gardeners.

Mr. Davidian has been associated with the Royal Botanic Garden for forty years and during those years his primary attention has been devoted to a study of the genus *Rhododendron* in herbaria and in gardens. His tenure at the Garden covers the latter part of the period when quantities of new rhododendrons were introduced into cultivation from collections swarming into England and Scotland from such men as Forrest, Farrer, Wilson, Kingdon-Ward, Rock, and Ludlow and Sherriff during the first half of the present century.

Since that time, especially quite recently, there have been intensive studies of the various sections of this older taxonomic classification and rather radical revisions have been published. It will take considerable time for these revisions to filter down to the horticultural world, even if they do stand up.

H.H. Davidian in his general introduction to the present volume rejects most of these revisions. As horticulturists most of us are probably happy to have the comfort of old names we are familiar with. Some of the bright young students in this arcane taxonomic battle ground

may feel that Davidian is an old "fuddy-duddy".

Ignoring the taxonomic debate, I think even the most militant will agree that this book is a splendid piece of work that should be on the shelf of every serious rock gardener. Here in some 430 pages, not counting the 95 magnificent color plates of individual plants and gardens, is a work packed with information for ready reference. In addition to the sparkling color plates, altogether in one section, there are scattered vibrant black and white reproductions of mountain scenery photographs made by J.F. Rock during his many expeditions into the remote and difficult world of rhododendrons. In a sense these pictures give a flavor to the whole work. There are in addition 40 line drawings. Here in final form after years of investigation is H.H. Davidian's devoted study of the plants introduced by daring explorers. He gives us a few pages of the history of these brave collectors.

The body of the work is a detailed verbal analysis of the Lepidote Section of rhododendrons, arranged by species under his various recognized series. For each series there is a stunning line drawing of a species typical of the series, and for each series there is a key to the species. The chief value, I think, is the detailed description of each species, giving valuable information about its features, the history of its introduction, its native habitat, and its horticultural status. Here is an inexhaustible storehouse of information solidly based on years of work by a learned and devoted, if eccentric, man, in a beautiful volume that should stand on every plantsman's reference shelf.

Thanks to the cooperation of the Rhododendron Species Foundation of the American Rhododendron Society and Timber Press of Beaverton, Oregon we have at a reasonable price in today's

market the first volume of what promises to be a really monumental work on the genus *Rhododendron* by the acknowledged, if controversial master of rhododendrons. — H.L.F.

Jewels of the Plains – Wildflowers of the Great Plains Grasslands and Hills

by Claude A. Barr. 236 pp., 120 color plates. University of Minnesota Press, Minneapolis, Minn. \$19.95

This book is a warm outpouring of the feelings for and experiences of the author with the plants he knew so well. It is a book that contains a wealth of first hand knowledge of where these plants grow, their environmental setting, their horticultural value, and the trials and tribulations of their cultivation. For myself, it will be one of the ten best sources of cultural information.

The singular events that conspired to produce this book are recounted in a fascinating preface. The first line, "I do not have the fondest memories of Arkansas, where I was born," sets the tone of strength and atmosphere of candor that pervade the book. Breaking out of poverty by virtue of a scholarship to Drake University, Barr turned down a graduate fellowship to Harvard and returned to a life of pioneer isolation and hardship to help his parents in their meagre and desolate prairie homestead. In this isolation, Barr turned to the pleasures of plants and became the expert on plants of the Great Plains of North America. This book is his testament. It is a tragedy that he did not live to see it published and acclaimed.

The original manuscript went through several hands and publication was much delayed. It was only due to the perseverance and enterprise of several of the midwest members of the American Rock Garden Society that publication was

finally achieved. We owe them a debt of gratitude. Their names appear in the publisher's acknowledgement.

The book is composed of the frontispiece, preface, acknowledgements by author and publisher, a section on the Great Plains, a descriptive listing of the plants, a section on growing the plants, a section on the botanical (and horticultural) contributions of Claude Barr, bibliography, glossary and index. The descriptions of the plants are rich and meaningful and not sketchy truisms. There are 120 generous sized color plates. Some occupy a full page and none are smaller than six to a page. These color plates are of exceptional quality, faithfully reproducing the plants that Claude loved. There is a full page of Claude leaning over his fence. About half of the photos were taken by Claude; the one of *Lesquerella alpina* in rock crevices, plate 64, being particularly charming.

Several features characterize both Claude Barr and his book. He captures the ebb and flow of plant distribution as in his description of *Lewisia rediviva*. He had a keen eye for horticultural worth. His choice of *Erigeron scribneri*, *Eriogonum flavum*, *Oenothera lavalaeifolia*, and *Penstemon ambiguus* as the jewels of their respective genera are well considered. The forms of Phlox, Cacti, Leucocrinum, and others that he distributed are superior forms. The book describes failures with candor. These are informative and the failures of an expert transmit to the reader a pleasant sensation of comradeship. As Barr frequently points out, his gumbo soil was ill suited to most plants, yet there is no doubt that certain beautiful and difficult plants such as *Penstemon eriantherus* seem suited to such conditions.

Much is made of the desolate land in which he lived, and indeed it was, but it had its fascinations. There were limit-

less views with no sign of man's presence. Dozens of curlews nested in the surrounding fields and large hawks and flocks of lark buntings sat on the miles of fences. All of this molded an appreciation of nature that flows from this book.

If the book has a flaw, it is in Barr's self-effacement. He could have added more of his personal experiences such as riding in the saddle all day and relishing prickly pears at nightfall or living for years without electricity. He had much to tell. He omitted descriptions and experiences with his evergreen double *Phlox hoodii*, his fine white form of *Tradescantia bracteata* (fortunately pictured on plate 112), and *Arenaria saxosa*. He was too critical of *Townsendia*

grandiflora, which can be grand and of *Paronychia sessiliflora*, which is charming if you regard it as a rival of mosses rather than flowering plants.

It must be admitted that in general the plants sent out by Claude Barr from the Prairie Gem Ranch have not entered general horticulture. Perhaps this book will again encourage plantspeople to make the effort to succeed with some of these jewels. Finally, to quote the frontispiece, "many readers of *Jewels of the Plains* may well decide that its author was the rarest prairie gem of all." This is not only a superb reference to the flora of the Great Plains, it is a book to read and savor. § — N.C.D.

Claude Barr's Plants

Norman C. Deno
State College, Pennsylvania

With the publication of Claude Barr's *Jewels of the Plains*, it is timely to review the fate of some of his choicest plants. They can be grouped into (a) those that have developed self seeding permanent colonies, (b) those that are permanent and can be vegetatively propagated, and (c) those that bloomed for a time but could not be effectively propagated and have either died out or are dwindling. In Pennsylvania, Barr's plants have succeeded best in dry sand beds where an ordinary sunny bed is covered with 8 to 12 inches of sand. This is or closely resembles their natural habitats. The lone exception is *Mertensia lanceolata*, which has done best in woodland soil in half shade.

Group (a): *Aster kumleini*, *Delphinium bicolor*, *Erigeron compositus*, *Machaeranthera tanacetifolia*, *Mertensia lanceolata*, *Nemastylis acuta*, *Oenothera*

brachycarpa, *Penstemon nitidus*, *Pulsatilla patens*, *Talinum rugospermum*, *Townsendia parryi*, and *Viola pedatifida*. The aster also rapidly propagates vegetatively. Some of group (a) are short lived monocarpics, but others such as the *Nemastylis* and *Oenothera* are long lived. All of Barr's cacti belong in group (a). They are subjects by themselves, but his hardy cholla, *Opuntia imbricata*, deserves mention because of its uniqueness.

Group (b): *Arenaria saxosa*, *Erigeron caespitosus*, *Erigeron flavum*, *Hymenoxys acaulis*, *Penstemon caespitosus*, *Phlox alyssifolia*, *Phlox andicola*, *Sedum lanceolatum*, *Thermopsis rhombifolia*, and *Tradescantia bracteata*.

Group (c): *Anemone caroliniana*, *As-tragalus barrii*, *Dodecatheon pulchellus*, *Erigeron scribneri*, *Hymenoxys scaposa*, *Lesquerella ovalifolia*, *Leucocrinum*

montanum, *Melampodium leucanthum*, *Microseris cuspidata*, *Oenothera lavana-dulaefolia*, *Penstemon eriantherus*, *Phlox hoodii*, and *Phlox longiflora*.

Any of the plants listed above would take first rank in any horticultural circle. Following is a brief description of my choice of the best six. *Nemastylis acuta* has flowers that last only a day and stay open for only about six hours. If it were not for this fleeting bloom, this "blue tigridia" would be a horticultural sensation. There are few more beautiful plants in flower. *Arenaria saxosa* is the best *Arenaria*. *Aster kumleinii* is the best dwarf fall aster, particularly in the pink form. Only a somewhat short blooming

period and ragged appearance after blooming detracts from an otherwise stunning plant. *Erigeron caespitosus* is permanent and opens its white flowers all at once and at the same level. *Eriogonum flavum* is the perfect rock plant. It steadily enlarges the tight clump and can be regularly divided. The flat umbels of yellow flowers hide the plant, and it is attractive every day of the year. *Thermopsis rhombifolia* carries large trusses of yellow pea flowers despite a height of only one foot. The flowers have a powerful honey fragrance and remain in good condition for two weeks. It spreads steadily by stolons. §

• • • of Cabbages and Kings • • •

Several years ago the Executive Board of ARGS, realizing that the 50th Anniversary of the founding of the society was approaching, discussed plans about how best to celebrate this auspicious event. Among the decisions to be made was where to hold the celebration and a committee was formed to consider various sections of the United States. Their unanimous decision, with which the Board concurred, was that there would be no better place than the cradle of North American botany, the Southern Appalachians, that lodestone that drew to this country such eminent early European botanists as André Michaux (1746-1803), the Englishman Thomas Nuttall (1786-1859), and Peter Kalm, the pupil of Linnaeus. This area was, in addition, the hunting ground of John Bartram (1699-1777), the Quaker farmer from Philadelphia who was, perhaps, our first true American botanist, and his son, William (1743-1823), whose exquisite drawings and paintings and meticulous

journals of his travels, recently reprinted by the University Press of Virginia and available from the ARGS-PHS Library, give us, perhaps, the most detailed and accurate picture of what the landscape and flora and fauna, as well as the human inhabitants of the American Southeast were like in the early days of its settlement by white men.

There are no alpine in the mountains of the Southern Appalachians. This ancient, well watered range is forested to its topmost reaches except in those few places where the soil is so thin that trees cannot gain a permanent foothold. The Great Smokies and Blue Ridge Mountains are probably best known for their magnificent rhododendrons and azaleas. These in some places grow so densely as to form monocultures known as "slicks" and "balds", which in season make the mountain slopes flame as though on fire. But this is also shortia country and trillium country and in spring the ground beneath the shrubs

and trees is sheeted with a tapestry of wild herbs in swathes and patches of color. Many of our most beloved and familiar garden plants such as *Iris cristata*, *Phlox divaricata* and *Phlox stolonifera* come from the Southern Appalachians, but there are also many others, less familiar that deserve greater recognition in horticulture.

Though the hub of the anniversary festivities will be in Asheville, the heart of the Blue Ridge, from June 6 to June 11, those who can spend more time will be able to explore, either on bus tours arranged by ARGS or on their own, a wider field of botanical treasures, so if you are planning to attend the 50th Birthday Party of the American Rock Garden Society — and we hope you are — come early and stay late.

An advance notice of the program and its attendant side trips is enclosed with this Bulletin and more detailed information and reservation forms will come with your fall issue. It promises to be a most exciting and rewarding event and we hope you will all come to explore in person this fabulously beautiful and historic area, the perfect place to spend an early summer holiday among congenial friends. Don't miss it.

The Northwest Chapter of ARGS is also planning a special celebration of its fiftieth anniversary in 1984. This chapter, then known as the Northwest Region, centered around Seattle, Washington, and Portland, Oregon, was one of the first geographical regions, into which the national society was divided, to become organized and came into being in the fall of 1934 only a few months after the founding of the society itself in New York City on March 21 of that year. The Northwest Chapter will hold its celebration during Western Study Weekend Nine in Port Townsend, Washington, from February 24 to 26 and will feature as speakers such well

known British plantsmen as Molly Sanderson of Ireland and Alfred Evans and Brinsley Burbage of Edinburgh, Scotland, along with a selection of Northwestern rock gardening enthusiasts. Those who wish further information should contact Evie Douglas, registrar, at 11907 Nevers Road, Snohamish, Washington 98290.

Among a number of other features of the Northwestern celebration will be a booklet, which will include, in addition to the program and notes about the speakers, a history of the chapter, some original articles and a list of favorite rock garden plants. Toward this end members of ARGS across the country are being asked to send in a list of their ten choices.

As I contemplated this job, which I anticipated as a pleasant way to spend an evening in early spring while the wind roared through the tree tops and gusts of cold sleety rain rattled against the clapboards of the house, I became more and more frustrated at the sheer enormity of such a task. How does one go about choosing ten favorites out of the hundreds and hundreds of species available? I cannot say I love them all equally — but only ten? Within ten minutes I could think of at least twenty-five I would not wish to do without and in half an hour I could list a hundred or so.

I started by contemplating the early bulbs. I have never considered these among my very favorite plants, yet today, in these first cold, sodden weeks between winter and spring a wide patch of *Eranthis hyemalis* had thrust their shining yellow cups through the inch or so of snow that overlay them and they were spread in a profligate scattering of doubletons, as though flung across a white damask table cloth, each golden coin surrounded by a ruff of deep green leaves. Could I leave them out, these first cheerful harbingers of the tide of

color to come? Or the crocuses clustered in the grass like clutches of painted Easter eggs, or for that matter, the blue, blue rivulets and pools of the scilla clan? And while I am on the subject of bulbous plants (these non-favorites of mine), I would be loath to leave off my list the cool green and silver-gray, nodding bells of *Ornithogalum nutans* or the buttered egg blossoms of *Tulipa tarda* nestled in the center of their starfish of narrow green leaves, or the jostling, laughing crowd of daffodils. Yet, I had better leave them all out or my list will be hopelessly long.

How about the hepaticas, one of our first native plants to bloom, their frail blossoms of pink, white and blue trembling above the sere leaves in the chill spring wind — shall I put them on my list? Surely their charm is in part their early appearance — or is it? But it is hard, indeed, to ignore the rich blue of *Hepatica transylvanica* with its elegantly scissor snipped leaves. But, perhaps, these, too, I had better cross off my list or I shall never keep it down to ten.

Can I leave out the delicate, sweet scented Mayflower, the Trailing Arbutus, *Epigaea repens*, whose dainty pink and white flowers peep so shyly from beneath the mat of glossy evergreen leaves, or the fringed bells of *Shortia galacifolia* or *S. uniflora* or the rosy campaniles of *Shortia soldanelloides* with their burnished foliage still bronzed by winter's cold? How about *Trillium nivale*, the Snow Trillium, that raises its trilogy of unsullied white petals only an inch or two above the sodden ground in earliest spring, or those other taller trilliums, *T. grandiflorum*, *T. vaseyi*, and that loveliest of all, *Trillium undulatum*, the Painted Trillium? No, this last one I can cross off my list; she is impossible to grow out of her native habitat and has shunned our most ardent efforts to please her in our garden. But what of the others?

And I suppose I should cross out *Caltha palustris* also. It is, perhaps, not a true rock garden plant, though it has sown itself in ribbons of pure sunshine in the rocky verges of the little artificial stream that runs through our garden. But can I leave out the dainty Dutchman's Breeches and Squirrel Corn, *Dicentra cucullaria* and *D. canadensis*, which have seeded so profusely in our shady garden that their blossoming is like a fall of fresh snow? Nor can I exclude that other lovely native, *Sanguinaria canadensis* that lights with its white candle flames the beds under our straggly grove of young pines near the house, nor its lovely double form, *multiplax*, that float like miniature water lilies above the unfurling leaves.

At this rate I'll never manage to keep my list down to ten. But, surely, I should include that exquisite exotic, *Jeffersonia dubia*, whose amethystine cups rise from among its still unfolded garnet leaves every spring. And can I leave out the pulsatillas: *P. vulgaris* with its rich purple goblets brimming with golden stamens, whose clustered awns hover like balls of down over the alpine lawn in early summer; or *P. vernalis*, whose opalescent chalices are sheathed with spun gold hairs against the cold; or our own *P. patens* from the plains states, whose diaphanous, pearly-lavender blossoms are clad in silvery fur?

And I mustn't forget the elegant Trout Lilies, the erythroniums, each more beautiful than the last, whose revolute petals come in shades of rose-pink, clear yellow, pristine white and even smoky gray-blue, some with leaves as dappled as a fawn's coat. Nor have I yet mentioned the dainty soldanelas, though here I would leave out *Soldanella alpina*, which melts its way through alpine snows; it never opens its fringed bells of lavender-purple for us in the open garden unless we have a deep snow-cover

from November to March to protect its overwintering buds – too rare on occasion here. Instead I would choose the taller *Soldanella montana*, whose flowering stems, each hung with a shower of violet-blue flowers, rise without fail above their piles of penny-round leaves under our tall old pines no matter what the winter brings.

Already, I know, my list is well over the allotted ten and I have yet to come to the rush of late spring and early summer, to say nothing of the beauties (though these are fewer in number) that bloom in mid-summer and on into fall. Yet I haven't mentioned the ramondas with their felted, rugose penwiper leaves of deepest green framing their sprays of blue-purple, pink and white African Violet flowers that nestle so happily in the mossy crevices of our north-facing stone walls and ledges. And I should include at least one of the Blue-eyed Marys, so unlike despite their common name. I would dearly like to list them both, though perhaps I should skip *Collinsia verna* as a mere annual. Yet it comes up every spring in the same spot among the wild strawberries under one of our big maples from self-sown seed as reliably as any perennial to gladden my heart with its shimmering cloud of blue and white butterfly flowers. *Omphalodes verna*, on the other hand, is solidly perennial. Its rosettes of heart-shaped leaves make over the years a mat of dark green by means of short strawberry-stolons. This rug of leaves is covered in spring with clusters of large forget-me-not flowers, not washy blue, but of a strong, heart-stopping cobalt to rival that of any gentian.

Which, of course, brings to my mind the gentians. How about the glorious ultramarine trumpets of *Gentiana acaulis* and its ilk, their throats streaked and speckled with white and green – they would have to be on anyone's list of

favorites. I shall reluctantly leave out *Gentiana verna* however, despite its more refined, starry flowers of intense cerulean blue. It has proven too fussy a plant in the open garden, at least for us. But I would like to list the easy-going, summer-blooming *Gentiana septemfida*, which generously tips its procumbent, leafy stems with clusters of azure blossoms. And I shall certainly include at least one of the stunning fall-blooming gentians from central China: GG. *farreri*, *ornata*, *veitchiorum*, et al., and all their lovely hybrids from whose pancakes of fine grassy foliage spring swarms of upfacing trumpets of incredible blue from aquamarine to deep sapphire, feathered with bands of white and luminous green, proclaiming their glory to Heaven until hard frost overtakes them. The only question is which one? I would not wish to leave any of them off my list of favorites, yet I must draw the line somewhere if I am to be allowed only ten choices; there are too many others to consider and I have barely begun.

I have not yet come to the lewisias: *Lewisia cotyledon* in all its perfection of clustered blossoms of candy-striped pink, and perhaps even more lovely in the selected forms in shades of tangerine, apricot, gold and vermilion; nor the huge, diaphanous flowers of *Lewisia tweedyi* shimmering in tints of opalescent apricot-pink among its tongue-shaped, succulent leaves. Surely, these two should stand high on my list of ten favorites.

Nor can I leave out all the anemones. Two in particular are among my favorites: *Anemone nemerosa*, the Wood Anemone of England, which scatters its white, pink, and blue stars so generously in our woods, and especially the double white form 'Vestal' with its central pompon surrounded by a ruff of petals; also *Anemone sylvestris*, which despite its

name is not a woodlander for us, but lights a corner of our moist scree in sun with its ample, unblemished white cups on stiff stems above the crisp, dark green, intricately wrought leaves for weeks and weeks from midsummer to early fall to be followed by drumstick seed-heads that look like cotton grass as they ripen and shatter.

And what of the primroses — oh, the primroses! I think I could almost fill my list with this genus. There are the little alpine primroses of the Auricula Section, with smooth, fleshy leaves: *Primula alionii*, *P. hirsuta*, et al., their large, clear pink flowers nestled among the rosettes of leaves: *Primula clusiana*, its rich rose-red blossoms with deeply cleft petals paling to white at the center, and all the neat little bouquets of their hybrids, *P. x pubescens*. Then there is *Primula marginata*, whose dentate leaves are delicately outlined with silvery farina, which also powders the stems and calyces and the center of each lavender-blue flower. And lovely indeed is *Primula auricula* itself — not the tricked out hybrids, whose flat faces are patterned with bizarre colors in bands so precise as to appear painted on by a clever artificer — but the wild species with clear yellow, fragrant flowers, white centered in var. *albo-cincta*.

Then there are the woodland primroses, of which *Primula vulgaris*, the pale yellow primrose of English copses with a darker egg yolk center and rough, lettuce-green leaves is, perhaps, my favorite, but there are also its multitudinous color forms from white to shades of blue — milky-sky blue to the deep blue of Gulf Stream water — or in tints of yellow and gold, orange, pale pink and rosy-red, each blossom starred at its center with deep yellow. In the 'Kowitchan Strain', the leaves are stained with red and the blossoms are a deep, rich, glowing ruby or garnet or else a

velvety midnight blue. All these "acaulis primroses" have but a single flower on a stalk, but so bountiful is their blossoming that for every flower that fades two spring up to take its place and for weeks the rosettes of leaves are as jammed with bloom as an old-fashioned nosegay.

And I must not leave out those dainty, Japanese woodlanders, *Primula sieboldii* and *P. kisoana*. The former, perhaps the easiest of all primroses to grow, has loosely clustered heads of ruffled snowflake flowers of white or deep rose to shell pink (sometimes combined in the same flower) above the dentate, hairy, pale green leaves that spread to form mats by the slow increase of short, brittle, white rhizomes just a few inches below the surface of the soil. This primrose thrives despite dense competition from other plants and if in summer the weather becomes too dry to suit it, it simply retires quietly underground and waits until spring moisture urges it to renew growth. *Primula kisoana*, on the other hand, disperses its riches widely in the rich, leafy soil it prefers by means of long, threadlike underground stolons, which send up new rosettes of leaves, frequently at some distance from the mother plant. Its leaves are shaped like those of a geranium and are fuzzy with hairs, as are the pedicels that carry to a height of six, occasionally ten inches, the clusters of rosy-red blossoms with notched petals, paler toward the center. There is a rare albino form with flowers of snowy white that is especially lovely.

Among the taller primroses, my list is short, as the glorious Himalayans: *PP. sikkimensis*, *florindae*, *viallii*, et al., do not do well for us. They dislike both our winters and our summers and, though for many years we tried to please them, after one summer of spectacular bloom they would dwindle away. I cannot in all conscience list among my favorites plants which demand endless cossetting

when I must ignore so many beautiful and willing growers. *Primula denticulata* I shall also leave out, though it thrives in our garden wherever the soil is rich and reasonably moist and self-sows in swathes of cabbage leaves from which rise in earliest spring the lavender-pink, white, and occasionally rose-red balls of bloom. It ages badly, however. The seed heads on their elongated stalks and the great trusses of cabbage leaves flop disconsolately in an unsightly, limp tangle as soon as the heat of late spring and summer hits them despite the moist soil in which they grow and the shade of the trees that surround them. *Primula japonica*, with its tiers of crimson, rose-pink, and white blossoms, I shall include along with the lavender-pink *P. beesiana* and the yellow flowered *P. bulleyana* and their glorious hybrid offspring, *P. x bullesiana*, whose candelabras of blossom come in every delicious tint that can be created by their parents' genes. These species do well for us though they require constantly damp feet along our brooklet or in a wet corner of the rich moraine where they self-sow quite happily, and they are surely among my favorites.

It is indeed fortunate that I must leave out at least some of the primroses as those on my list already add up to many more than the allotted ten and I will have to skip over many favorites I am loathe to exclude. But regardless of all strictures, I must list at least some of the phloxes, for what would our garden be without this genus? All through the month of May the alpine lawn foams with billows of *Phlox subulata*, the starry-flowered *Phlox bifida* and their hybrids in white and delicate pastel shades of pink and lavender-blue, and under the warmth of the strong spring sun they fill the air with a fragrance like no other. Yes, I know, *Phlox subulata* is an easy, common, much maligned species, at

least in the Northeast, but what plant is so willing to grow, so generous with its bloom. Even the great Reginald Farrer, who scoffed at most American natives, said of it, "There is no end to the kindness and glory [of this phlox] . . . The day that saw the introduction, more than a century since, of *Phlox subulata*, ought indeed be kept as a horticultural holiday." Certainly it must stand high on my list of favorites.

Yet it is but one among many in this genus that I favor. But, lovely as it is I shall not list *Phlox divaricata*. Though goodness knows it is as easy-going and prodigal with its bloom as *Ph. subulata* and when it blossoms our wooded areas shimmer with its lavender flowers, it does not have that special appeal. I am torn, however, by indecision as to whether to leave out or include that other woodlander, *Phlox stolonifera*. Its stay is comparatively brief, yet when it is in bloom the floor of our woods garden is tapestried with its delicate colors, pure white and every shade of lavender-blue and pink to wine and rich violet. And I cannot bear to leave out its beautiful relative, *Phlox adsurgens* from the pine forests of the Siskiyou, whose every petal of pale coral is penciled with a central stripe of darker rose. Nor can I exclude all the lovely summer-blooming phloxes: *PP. pilosa, ovata, carolina, pulchra, buckleyi* et al., with many-flowered heads of bloom in shades of delicious pink and rose on stems from twelve to eighteen inches tall, that froth in the openings in our woodlands when very little else is blossoming there.

Even if I left these out, how would it be possible to keep my list to only ten out of all the plethora of species that enthrall me. Would any list of favorites be complete that did not include the needle-leaved and silver-scaled muffins of the *Kabschia saxifrages*, whose hard domes enchant throughout the year and

in earliest spring are transformed into heaped mounds of snow, strawberry icecream, raspberry sherbert, and lemon ice? But which to choose of these delectable creations? And how about the sculptured rosettes of the encrusted saxifrages edged with dots of lime, which erupt with sprays of frothy white in June – can they be excluded? Can I compile a list of favorites which does include even one species of the Campanulaceae that ring their blue and white bells all through the summer months, or the marble-leaved cyclamen that bridge the season with their startled, upturned petals, or that other inside-out flower, our symbol, the dodecatheon.

Surely I must add to my list the dainty Japanese woodlander, *Thalictrum kiusianum* that mists its two inch high mats of ferny foliage with puffs of lavender stamens for weeks and weeks in late summer. Nor have I yet mentioned the elegant *Arisaema sikokeanum* with its jaunty spathe striped in eggplant purple and pale green and lined with white porcelain to match its bell-clapper spadix. And who would leave out the aquilegias, their intricately folded flowers in every shade the rainbow offers, or *Daphne cneorum* and its low growing sister species, whose clusters of blossom scent the whole garden, or the aethionemas that make a haze of palest pink over our alpine lawn in June? What list of favorites would be complete if it did not include *Dryas octopetala*, whose

pristine cups overflow with golden stamens and float a few inches only above the neat mats of tiny, hard, oval, oaklike leaves and are later transformed by the bees into swirls of gray feathers?

Should not *Adonis vernalis* with its golden suns framed in leaves of spun emerald be on my list, and at least one of the clove-scented dianthus clan? Must I leave out all the iris, as lovely and evanescent as the daughter of the rainbow after whom they are named? And, if I may list one Compositae, I shall choose the Atlas Daisy, *Anacyclus depressus*, that epitome of daisy-dom, its starfish pancakes of wooly gray, curled parsley leaves pressed tight to the ground and spangled with not quite meadow-sized, apparently stemless daisies, whose chalk white rays close each night into pointed crimson buds and reopen petal by petal to disclose the yellow disks when the morning sun wakes them. I have a particular fondness for daisy-flowers; I shall not leave these out.

There are so many plants I love, mentioned and unmentioned, that each time I go over my list in an effort to cull it I think of still more that I should add. Making a list of ten favorite plants out of the many, many that enhance our garden and our lives is an exercise in the impossible. Each is a favorite for its special grace. I cannot choose among them. §

Unpoisoned

Juglone, a toxin produced by the Black Walnut (*Juglans niger*), has no apparent effect on the growth of hosta plants. I have seedling hosta beds as well as large plants growing under big Black Walnut trees and I have seen no effect upon the growth of seedlings nor on the mature plants. It seems the absorption of the toxin juglone by hosta plants must not occur or, if it does, has no deleterious effect on this genus.

– L.E.C.

Accidents and Failures

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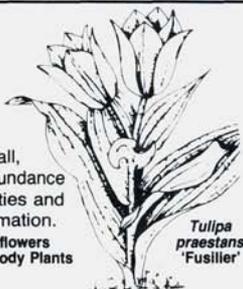
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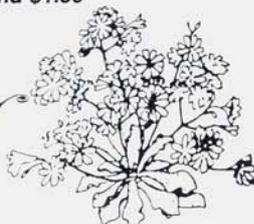
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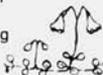
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