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The Green Thumb
Vol. 8 April, 1951 No. 4

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Pictures on covers are of Vreni Hunerwendel preparing the garden at Harenberg's Garden Shop for the spring rush.

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April Schedule

April 8. Sunday. Scouting the Cedar Breaks area north of Limon, proposed site of a state park. Leave Horticulture House 8 a.m. Some early flowers may be out. George Kelly, Leader.

April 12. Thursday evening, 8 p.m. Denver Rose Society meeting at Horticulture House. “Control of Insects” by R. V. Seaman. Movies.

April 19. Thursday evening, Horticulture House. “Ten Thousand Wasted Front Yards.” By George W. Kelly. Illustrated with Sketches by Ed Wallace. Is your front yard wasted? Would you like to get more use and pleasure out of that little patch in front of your home? George Kelly says there are at least 10,000 wasted front yards in Denver, and on Thursday, April 19, at Horticulture House, he is going to tell us what can be done about it. He promises a chalk talk with illustrations, to help you get away from that blank expression on your face. Program starts at eight o’clock sharp; Horticulture House will open at seven-thirty.

April 22. Sunday. Trip to Beaver Brook Trail and Silver Cedar Botanical Reserve to repair trail and label plants along it. Leave Horticulture House 8 a.m. Dr. E. H. Brunquist, Leader.

May 3. Thursday evening, 8 p.m., Horticulture House. “Busyman’s Garden.” Busyman could be almost any one of us these days, and who wouldn’t like to know how to have a happy garden with a minimum of effort. Mr. M. Walter Pesman will come to Horticulture House on Thursday, May 3 at eight p.m. to tell us how to achieve that happy situation. He will have suggestions for things we can do now, and things we can plan for the future to insure our gardens against becoming more work than relaxation.


Listen to the Green Thumb program on KOA—8 a.m. Saturdays.
Mosses and Lichens

Mosses and lichens are so commonplace that we have all seen them many times, yet how often we pass them by not knowing what they are or realizing that they have any importance. Although we are prone to link mosses and lichens together, they are really very different and unrelated plants. They are frequently found growing together, which probably accounts for our tendency to treat them as a unit.

Lichens

Lichens are among the most interesting plants in the world, for although they assume definite and characteristic growth forms, each lichen is in actuality a composite plant composed of a filamentous fungus and a simple one-celled green or blue-green alga. (Figure.) It is one of the intriguing mysteries of nature that these two plants, each so different from the other, should grow together in consistent and recognizable forms instead of the hodge-podge of intermingled cells one might expect from such an arrangement. Indeed, the forms are so consistent that species are recognizable, and the binomial system of nomenclature is applied to lichens in the same way that it is applied to other members of the great plant kingdom.

This peculiar situation of an alga and a fungus growing intimately together is a partnership of nature, in which each member contributes something to the partnership and in turn derives benefit from it. This association of mutual advantage is known as symbiosis. In the lichen, the algal partner has chlorophyll and manufactures food; the fungus, lacking chlorophyll, cannot make food but it absorbs and retains moisture for the partnership. Thus there is an exchange of food and moisture to which each contributes and from which each benefits.

Lichens are truly pioneers in plant succession, the process by which bare areas become populated with plants. Because of their great powers of survival, these hardy little invaders are able to establish themselves and grow, albeit slowly, on bare rock. When there is plenty of moisture and conditions of growth are favorable, the lichens grow and reproduce themselves. When conditions are adverse, they remain dormant but alive, ready to resume growth when conditions are suitable. As they grow, they build up a substratum upon which other plants may take root, and the story of succession moves on.

Lichens are classified into three groups on the basis of form: crustose, foliose, and fruticose.

Crustose forms are the true pioneers, for they are the ones which form crust-like growths on soil, trees, or bare rocks. The rocks, over a very long period of time, are broken down by chemical and mechanical actions of the lichens growing upon them. The lichen bodies together with the disintegrated rock, make a substratum upon which other lichens, mosses, or seed plants may gain a foothold and grow. Many of the brilliant colors which we see as we drive along rocky stretches of road in the mountains are due to crustose lichens. The lovely soft greens and grays, the bright oranges, the coal blacks, may be crustose lichens on the surface of the rock. The time to see these at their best is just after a rain when they have absorbed water and are plump and fresh.

Foliose lichens are leaf-like in form, consisting of one or more flat lobes attached to the substratum by strands of the fungus. Many of these forms are gray in color and appear quite inconspicuous while dormant, but after they have received moisture they freshen and take on a bright green color, making them truly lovely to see.

Fruiting lichens are erect or pendent. Some of our most showy lichens belong here. The familiar delicate green "old man's beard" or "deer moss" which we find hanging from trees in the mountains is a good example of a fruticose lichen and is not a moss at all as many of us suppose it to be.
Lichens reproduce in various ways, the simplest being that pieces break from the parent plant and develop into new plants. Most lichens reproduce vegetatively by the formation of minute bud-like outgrowths known as soredia, each composed of one or more algal cells surrounded by strands of the fungus. The soredia which may appear as dust on the surface of the lichen are so tiny that they can be blown to a new location and there establish residence. In addition to these two methods, the individual components of the lichen may reproduce independently. We have probably all seen lichens with cup-shaped structures on the upper surface, often brilliantly colored; these were the fruiting bodies of the fungus. The algae reproduce independently by simple cell division.

Lichens are useful as well as ornamental. Their great importance in soil formation should never be underestimated, for although slow and inconspicuous, it is a vital process.

The idea of eating lichens may not appeal to us, but they are of considerable importance as food for reindeer and other stock, and are used in some parts of the world as a part of the human diet. Reindeer moss, an arctic form which grows as tall as twelve inches, is an important food for reindeer. Other large lichens are also a source of food for reindeer and other animals. A lichen known as rock tripe in the northern countries has been eaten by hungry travelers. A rock lichen which occurs in China and Japan is considered a great delicacy. On the barren plains of western Asia and northern Africa there are found certain lichens which have been used for human food, and which are of special interest because they are believed by some to be the manna of the Israelites. They are called "bread of heaven" because they may be carried considerable distances by the wind.

The ancients used many lichens in the treatment of diseases. One species which is called dog lichen was used in treating hydrophobia, and another, lungwort, was used to treat lung diseases. Today we recommend seeing your physician.

Lichens have been used in tanning, and as a substitute for hops in brewing. Several lichens have been used in dyeing, since the fungi may contain brilliant pigment. Orchil, a purple dye formerly used to dye silks and woolens, was derived from lichens. A purified extract of orchil serves as a stain for microscopic preparations. Litmus, the famous indicator for acidity or alkalinity, is derived from the same lichens. (The story of mosses will follow in a later issue.)

PLANS FOR THE AUCTION OF "ANTIQUES AND HORRIBLES" SHAPING UP
On Saturday, May 19th the parking lot in the rear of Horticulture House will again, we hope, be filled with wonderful bargains in all sorts of fantastic and beautiful household goods. John Swingle, as auctioneer, guarantees a day of laughs and surprises.

Please start collecting your donations right now. Mark the date on your calendar!

GET CASH FOR BACK ISSUES
A few issues of the Green Thumb are becoming scarce. They are needed for completing the files of Libraries and Colleges. We will pay 50¢ each for copies of the following issues: April, May, July, September 1944; January 1946; January, March 1947; January 1970.

April, 1951 THE GREEN THUMB

NO CURE-ALL FOR PLANT TROUBLES
Reprinted from The Shade Tree Digest as presented by Swingle Tree Surgery Company

WITH the coming of Spring every dealer in garden seeds and horticultural supplies will carry on his shelves an imposing array of new insecticides and fungicides. The pest-destructive prowess of these materials will be described in such glowing terms that the prospective purchaser may be impelled to believe that his troubles with pests will be over if he only sprinkles a little of the dust or sprays over his plants as fancy dictates. Unfortunately, control of insects and diseases is not that simple.

While it is true that some of the new materials—DDT, parathion and others—are effective against many plant pests that hitherto were classed as being extremely difficult to control, many of these chemicals are so toxic to man and animal that extreme caution must be observed in their use, and all are more or less specific in action, that is, each may kill one or a dozen different kinds of pests but is non-toxic to others. Moreover, some are injurious to certain species of plants. Furthermore, for success in the use of nearly any of these chemicals, the application must be timed to coincide with the stage of greatest susceptibility in the life cycle of the plant pests. For example, fungicides generally are preventives rather than cures, and usually are ineffective after a plant has become infected. Some of the new insecticides are toxic to predatory insects but non-toxic to other insects equally injurious, that the population of the latter increases tremendously and severe damage to host plants results.

It all sums up to this: NONE OF THE NEW CHEMICALS IS A CURE-ALL. As in the case of the older and better known insecticides and fungicides, they are effective if used properly. This requires knowledge of the pest to be controlled, knowledge of the susceptibility of the host plant to the chemicals involved, and skill in the application of the pesticidal material.

Conservation Is Everybody’s Business
From the Conservation Foundation

Americans, more Americans every day, are wondering—"Is our day of limitless resources about over?" Questions arise—"What about 40 million Americans facing real trouble with water supply?" . . . "Why should lumber prices have increased more than twice as fast as general commodity prices?" . . . "Are we really threatened with other great ‘dust bowls’?"

The conservationist can reply—"You have plenty of reason to worry, it’s later than you think!"

Neither the questions nor the answer are explicit enough regarding a situation that does indeed lie at the heart of the present and future wellbeing of our country. Every activity—whether it’s business or jobs or colleges or hospitals—depends upon whether we have continued flow of natural resources. So does the health of our people. Other nations which failed to do the conservation job have either gone into eclipse, or met with starvation, or have disappeared.

As for the world in general—growing populations, diminishing natural resources, each contributing to social and political tensions, are now part of our responsibility. Today conservation is everybody’s business.

Listen to the Green Thumb program on KOA—8 a.m. Saturdays.
A GARDEN WITH INDIVIDUALITY

By Joan Parry

The green grass front gardens and tree-lined streets, which are the hallmark of Denver, create a real problem for the keen gardener. How can the front yard be planned so that it bears the individual mark of its owner and still conform well with its neighbors?

Mrs. Haggart's garden on Circle Drive is a fine example of this achievement. The straight path that leads centrally from the sidewalk to the front door is flanked on either side with lawn. And on the far side of each stretch of grass is a hedge running parallel with the path. On the one side the hedge screens the garage from the garden, and on the other shelters a little enclosed garden of lawn and a long peony border.

The front garden is thus partly open to the sidewalk and partly private. It presents a most attractive green facade of grass and trees to the passerby, and yet retains privacy for its owner. And it does more than that. By showing the individuality of its owner it gives a fair guess that the back garden is equally unusual.

From the peony-bordered and hedged garden an archway leads round the side of the house to the larger garden beyond, and this too carries out the same pleasing balanced proportion. A larger unbroken stretch of grass gives a feeling of space; and beyond, a small formal rose garden a feeling of intimacy.

This formal rose garden, edged with Lodense Privet, is beautifully designed. And at one end of this miniature garden is the most attractive tool shed imaginable—a white-boarded miniature house; rose garden and tool shed in perfect proportion the one to the other, a small house and garden within the larger garden.

CONSERVATION NEWS AND VIEWS

from The Land News, Columbus, Ohio

As our nation faces up against the greatest crisis of its existence, every effort should be made to maintain the fertility of our topsoil. Otherwise, we lose in the long drawn out war ahead. This means that no glittering offers be made to plow up land that ought to be kept in grass.

Let's not lose our hard-won gains in conservation.

There is a limit to the future we can spend today in natural resources.

Before it is too late, this nation must aggressively undertake and expand its resource restoration and conservation programs. And contrary to prevalent Washington philosophy, this is not all dam building, nor all subsidy payments. It must deal objectively in basic restoration of soil, water, land and forest resources.

Listen to the Green Thumb program on KOA—8 a.m. Saturdays.
AN OFFICIAL NAME FOR EACH PLANT
M. Walter Pesman

If you place a nursery order for “Gold-on-the-carpet”, what do you expect to get? It is another name for Peverfew, and Peverfew is the most common name for Chrysanthemum parthenium, a strong-smelling, leafy perennial, usually grown as a bedding plant, with golden foliage and bunches of small flowerheads.

But an older name for this Chrysanthemum parthenium is either Matricaria caesensis or Matricaria exima, and that throws it with the camomiles, a plant that was at one time used for groundcover instead of grass.

Have you lost interest in names by this time? It won’t do you any good, because if gardening names will catch up with you,—or trip you,—at some time or other. We simply must find a way so that we are all thinking of the same plant when a certain name is given.

S.P.N., short for Standardized Plant Names, is the standby for many of us. It is a “Listing of Approved Names of Plants” prepared for the American Joint Committee on Horticultural Nomenclature. And its red binding is decorating all bookcases of people who do try to help along in lessening the confusion of plant names.

All you do in consulting it is to turn to the name you know and you’ll find after it the accepted common name and botanical name. For instance: under Noseburn you find Tragia, under Catchbirdbtree you find Pisonia, under Campion, Lychnis, under Skunzbush, Rhus trilobata.

Of course, there may be some names you dislike, but all in all, S.P.N. does give us a much-needed support. For the first time nurserymen, foresters, ornamental growers, and landscape architects have a definite checklist to follow. The latest edition, of 1942, has adopted the International Rules of Botanical Nomenclature; and that is of great help.

Now, if only we could get the botanists to follow suit and get together on botanical names. Linnaeus, the great Swedish botanist (1707-1778) started out right by adopting the two-name system for all plants then known: one generic name, such as Ulmus, Rhus and Helianthus, followed by the specific name, such as campestris, glabra and annuus, showing which particular kind of elm, sumac, or sunflower was meant.

The fact that Linnaeus himself did not stick to his father’s name (which was Nils Ingemarsson), but adopted the great linden tree, which grew on the family acres, as his godfather,—that fact does not detract from his insistence that a plant henceforth be known by one name only, the name first given it by the botanist describing it through accepted channels.

One of the main difficulties among botanists is that they are in danger of becoming “lumpers” or “splitters”. Rydberg was a typical splitter, who loved to create new species and even genera, sometimes confusing us by unheard-of names for such common plants as dogwood (Svida), yellow currant (Chrysobotrya), and rock spires of Holodiscus, which he called Sericotheca. His naming scared many of us so much that we overlooked the very fine work he did in describing native plants.

“Lumpers” go to the other extreme, in gathering under one name a large number of plants that really are quite unlike each other. Now we can only hope for a movement to bring them all together in an effort to arrive at a truly international and carefully-considered plant listing.

Such an effort was made at the Seventh International Botanical Congress which convened July 12 in Stockholm. The attendance was 1550 members from all countries interested in botanical problems, including the USSR, Israel, and Indonesia.

A list of generic names to be adopted for retention had been prepared, but even that was not accepted, though discussed for 3½ hours.

How to name horticultural varieties? A special committee was appointed, consisting of representatives from the United States, Great Britain, New Zealand, Sweden, Switzerland and Holland. This committee has already worked out general rules for naming, some of which have been adopted by the Congress, others to be submitted at the next Congress in Paris in 1954.

In the meantime there will be an International Horticultural Congress in London in 1952, and the same general rules will be submitted there to prevent two different lines of action. So it seems that we’ll gradually arrive at one international system, at least on botanical names.

So far, little has been actually accomplished in agreement. It is still all right to use either capitals or lower case letters for species names, i.e. either Primula Parryi or Primula parryi will be acceptable. Dropping the double i, as S.P.N. has done (as in Phlox Drummondii) was too much for the conservative botanists, and the Congress decided to allow it anywhere or else to use the original spelling.

In other words, so far the result has been mainly negative; but, at least, there is an effort made to get together, and that is more than the past has produced. The mills of the scientists grind slowly.

Where does all this leave us for common names? I am afraid that Little Johnny and his mother are apt to use a catchy name for a striking flower, such as “Bunny-in-the-grass” and “Parly-slipper”—no matter how many botanists call them Western Figwort (Scrophularia occidentalis) and just Calypso (Calypso bulbosa). People’s imagination is always active, and if an appropriate name suddenly appears,—nobody knows from where at times,—it is sure to be adopted.

On the other, it is foolish to continue the use of a name,—like Red-root,—that may mean one of a dozen plants; it is misleading to call a mock-orange “syringa,” since that name has been given to a lilac, or to talk about a “Silver Maple” when a White Poplar is meant.

It all comes down to this that it is safest to use both the botanical (Latin) name and the current common (English) name, if you want to lead to misunderstanding. For instance: under Noseburn you find Pisonia, under Campion, Lychnis, under Skunzbush, Rhus trilobata.

More and more people in America use S.P.N. as their guide; even tho a name has been more or less arbitrarily selected, it is better to agree on it than to have one plant go by a dozen names, or to apply one name to a dozen plants. Whether or not you string a number of words together in one breath-taking whole, such as Douglas fir and Floweroofan-hour (Hibiscus trionum), is of less importance.

This article would not be complete if it did not pass on a few of the most interesting stories connected with plant names.

Spruce was originally pruce, for Prussia,—a Prussian tree. The s was
added for emphasis, as for instance in "splash," which was "plash" to begin with.

_Dandelion_ was Dent de lion in French,—lion's tooth, for its leaves.

_Rhubarb_ is from the Greek Rheon barbon, the Rheon (or Volga) plant from the barbarous country.

_Stonecrop_ or _Sedum_ is so named because it grows on stones and walls,—a crop from stones; English people plant it on their slate roofs, and call it sometimes "Welcome-home-husband-how-ever-so-drunk."

_Washingtonia_, _Jeffersonia_, _Franklinia_, _Lewisia_, _Clarkia_, _Limnaea_, and _Rydbergia_ have all been named after well-known people.

_Spinach_ is derived from _Hispania_, Spain, called _Hispinach_ by Arabs.

_Sycamore_ has suffered from mistaken identity from way back. Its name comes from Greek and Latin: _sukon_, _fig_, and _moron_, mulberry, both with similar leaves. In England it stands for the sycamore-leaved maple, in America for the Planetree.

An interesting thing happened to the _Swamp Sunflower_ in its travels. Having been baptized _Helianthus angustifolius_ in our northern state, it was grown in European nurseries, then sent back to an American surgeryman who was unable to read the original label and catalogued it as _Helianthus quasifolius_.

Similar was the fate of our _Kinnikinnick_, _Arctostaphylos uva-ursa_, (both first and last name means Ber-<br>bery). Collectors corrupted the "uva-ursa" in such a way that they called it the "universe vine" or "uversy".

Leave it to the English to bring foreign names down to earth. Where else could _Epimedium_ change to "Happy Medium?" "Lizzie Mack" is certainly easier to remember than _Lysimachia_, and "Traitor's Cancer" nicely replaces the Spiderwort, originally named after John Tradescant, the 17th century naturalist.

But is it right to carry on the idea of a "rose by any other name" to the extent of applying "Gruesome Triplets" to the dependable red rose that greeted Teplitz?

**TRUE MOUNTAINMAHOGANY**

_Cercocarpus montanus_

One of the very interesting sights on dry hillsides in the mountains in winter is the sun shining on the fuzzy twisted fruits of the mountainmahogany. While we refer to these fruits as resembling pipe cleaners twisted into a corkscrew, actually the corkscrew and pipe cleaners are a very modern thing compared to these interesting fruits.

At various times through the winter these fruits loosen on their stem and the wind will carry them off. Then is when their peculiar construction comes in handy, for the fuzzy hairs make them light and easily carried by the wind, then when the wind drops them their spiral construction allows them to twist down through the leaves or grass and deposit the seed (which of course is always on the lower end) on the surface of the soil.

The Mountain mahogany grows on the dry, sunny hillsides, often in company with the Wax currant and some other native shrubs. It is in nature a rather loose, scraggly shrub, but under cultivation becomes rather dense and attractive.

The name probably comes from the fact that the inner wood or roots assume a mahogany like color with age, as it has no botanical relationship with the real mahogany.
THE NOT SO “MINOR” BULBS

by CLAIRE NORTON
All drawings by Claire Norton

WHEN we turn the calendar to April, we know, in Colorado, that once again the garden is stirring into life. And when we find in some sheltered nook the flaunting bubble of a crocus, or an early scilla, or even that venturesome tulip, *Tulipa kaufmanniana*, we are assured the round of color and beauty for which we have been waiting is at hand.

The so-called “minor” bulbs usher in the spring for any gardener so fortunate as to have captured for his garden these gay sprites. Just why they are called “minor” when they are so important to the early garden, I have never been able to determine, nor yet why we gardeners put off from year to year buying them in quantity. Their initial cost is small, and there is no expenditure for upkeep. Given a spot where they can settle in happily, their little colonies increase in size, year after year. Perhaps it is because we do not know these flowers from bulbs so well as tulips and daffodils, and in the fall when we should be getting them underground, we are thinking of other things.

Snowdrops are among the first to show and may bloom as early as January some years. Old-fashioned they are but ever a delightful surprise to find when thoughts of gardening are but lazily rousing. Most gardeners have known since childhood the white bells of *Galanthus nivalis*, almost twice as large is the later blooming *G. elwesi*, and there is a double variety, *G. nivalis* *flore-pleno*.

Less familiar, but sometimes met with in Colorado gardens, are the snowflakes, *Leucojum vernum*, the spring snowflake, is earliest to bloom, eight inches high, white with green tipped petals. The summer snowflake, *L. aestivum*, blooms in May or early June, is taller and yellow tipped.

The dwarf squill, *Scilla sibirica*, can always be counted on to produce its lovely deep blue by the time the crocuses are beginning to stretch upward their chalice blooms. It will probably still be making a gay note of color when the daffodils open their buds.

Nestled against a rock, a colony of these squills is inspiring. By May, the taller, more robust squills, known variously as wood hyacinths and English blue bells, will be around. These grow up to as much as fifteen inches in height and come in shades and tones of blue, of white, and of pink. Bulb catalogs list many named varieties of *Scilla campanulata, or hispanica*, and sometimes of *S. nutans*.

Grape hyacinths like Colorado as well as do we gardeners, especially the one sold as *Muscari armeniacum, or Early Giant*. Putting up its foliage in the fall, it is ready to burst into bloom with the first real sign of spring, displaying its cobalt bells along sturdy stems often a foot tall. And next year there are a dozen where one bulb was planted. There are many, many more grape hyacinth species and varieties, with *Heavenly Blue* heading the list as familiar to the garden-minded public. The Feather hyacinth, a *Muscari* with narrow petals forming a plume-like spike, is one to try for something different in the spring garden.

*Chionodoxa*, glory-of-the-snow, and *Eranthis*, winter aconite, are two “minor” bulbs with which I have not had much luck. For some reason they always disappear after a season or so, though listed as perfectly hardy. Spring starflower, *Tritelia*, is another that has failed me, but it might do with protection. That little iris, *I.
reticulata, also wants a very protected spot, and does not like what March can sometimes do to it here.

The guinea-hen flower, *Fritillaria meleagris*, is both hardy and quaint. We should have some of this around just to bring a smile when things are not going quite right with spring garden work. And Virginia bluebells, *Mertensia virginica*, listed with the bulbs—how can any garden be without its beauty when daffodils and tulips and trilliums bloom? It is a choice addition to the shade border.

Crocuses have an appealing way about them, whether they are the rather opulent Dutch or the fragile, ethereal wild species obtainable from bulb specialists. Never should they be planted in twos or threes here and there. They show to advantage only in large groups or informal drifts of their own kind.

The daffodil or *Narcissus* tribe has some small members that should be considered among the not so "minor" bulbs. The hybridizers have been at work on the Triandrus and Cyclamineus groups to give us some delightful new varieties. Then there are the true jonquils together with their hybrids, and those quaintest of all flowers that come from bulbs, the hoop petticoat daffodils. These latter are not as easy to grow, making their foliage in autumn and liking especially dry summer conditions. *Minimus*, *minor*, *namus*, *cernus*, *junci-folius*, *tenius* are other names for which to watch in the bulb catalogs.

For the gardener who wants something different in tulips, the Botanical or Species tulips offer a wide field.

Squills

*Crocus*

*Trillium sessile californicum*

Water-lily tulip, *Tulipa kaufmanniana*, is strictly reliable, early blooming and lovely. Little lady or candystick tulip, *T. clusiana*, is very choice but prefers a sheltered spot with winter protection for safety. *T. sylvestris* is sweetly fragrant and blooms in late April and early May. There are others to be found in bulb lists and are worthy of trial.

Trilliums should not be passed lightly by, particularly if the garden has any shade to offer. For at least partial shade and a deep rich loam is their preference. The Eastern white
wood lily, *T. grandiflorum*, is most generally offered, and is beautiful. One of the best varieties we have had for Colorado gardens hails from the Pacific Coast, the *T. sessile californicum*. We grew this successfully for several years at an altitude of 9200 feet. It is the most fragrant of its family.

Another native bulb genus with a lot of merit is represented by the Erythroniums. These from the West Coast are by far the showiest, but our native Rocky Mountain snow lily, *E. parviflorum*, deserves cultivation. The Eastern *E. americanum* is sometimes met as is the harder to come by *E. albidum*.

The star tulips or pussy ears Calochortus bloom early in the spring, and the eight-inch, fragrant lilac *C. lilacinus* proved hardy for us high into the mountains. It offers an unusual rock garden subject.

What garden can be without lilies-of-the-valley for late spring bloom? Here again we have a bulb flower that takes to partial shade. White is the common valley lily met everywhere, but the variety with bells delicately tinted pink is worth hunting. Together, a colony of these fragrant flowers along a shaded path is something to remember.

So there they are, a sample of the not so "minor" bulbs. Few of them are finicky about their diets. They thrive and bloom and increase in any good garden soil, with a minimum of care. Without exception they are planted in early fall, as soon as they can be obtained from the dealers. A light mulching spread late in December to keep the ground shaded and their foliage underground until safe in the spring will be advisable the first year. Most of them appear to become acclimated by the time a second spring rolls around and take care of themselves without even this coddling. And what dividends they pay on the money and time invested in them!

**TREES**

From a Report of the Bureau of Governmental Research and Services, Univ. of Washington.

Time passes quickly so what might be a little tree at one time can become an expansive giant to keep trimmed or to be cut down eventually because of right-of-way limitations, such as overhead wires, walks, and narrowness of right-of-way.

*Right: *Tulipa sylvestris*
FUN WITH GERANIUMS
By MERCY BERNICE NOYCE

A large eastern nursery is calling the geranium, "The flower of the century." Our brief and satisfying experience agrees with that, and in addition, it is certainly a versatile and excellent plant choice for the Rocky Mountain amateur whether working indoors or outside.

Briefly then, here is the story of average Coloradoans, a stone ranch house and the genus Pelargonium, otherwise Storksbill (from the seed formation) commonly known as geranium.

When we built our informal home with its generous corner windows, I insisted upon wide terra cotta sills, little realizing what would develop. About that time I rescued a window box of plants from an early fall freeze. We lugged home the big pots of flat Enchantress from Jo Collin’s place on West 10th, in Lakewood, promising to return the plants or cuttings in the spring. Boarding "Enchantress" was most rewarding, we had gorgeous long-stemmed blooms most of the winter. It was a good beginning, and by springtime I had been thoroughly bitten by the subtle "geranium bug." So far as I know, it is the only pest connected with our plants, but it affects only the gardener and not the plants. It is a delectable malady and can be only temporarily relieved by finding some new variety.

Anyone who loves sunshine more than an unfaded rug, can successfully induce geraniums to bloom indoors with little effort. We have found the following conditions necessary.

1. Full sunlight, or at least east and south exposure.
2. Suitable soil mixture for potting.
3. Correct watering schedule.
4. Room temperature, moderate. About 72, 50-60 at night.
5. Correct feeding schedule.
6. Proper pruning.

The first condition is self-explanatory. Without an abundance of sunshine, geraniums will not bloom. Where can you find better sunshine than ours?

Potting soil should be light and well-drained. Our Lakewood soil is heavy with clay, so we use one-third garden soil that has been tilled and enriched, one-third sand or part vermiculite and the rest well-rotted manure. One-half teaspoon of super phosphate is mixed in thoroughly to each six-inch pot, less for the smaller containers.

During the indoor season (October to May 30) potted geraniums require a good soaking every second or third day, depending upon the humidity in the home. Geraniums enjoy drying out somewhat, so we water when the top is good and dry, but never permit them to stand in water.

We have fine results using "Hyponex" as a liquid feeding. One teaspoonful is dissolved into a gallon of (Continued on Page 38)
The Colorado Forestry and Horticulture Association wishes to express its deep appreciation to Mr. and Mrs. Scott Wilmore for the fine volume of HAWAIIAN FLOWERS, presented to the Library on their return from Hawaii.

1951 PROPOSALS

We are in need of many more books on special subjects for the library. The following patrons agree to help supply these important requirements.

- Atlas Iron Works—(Mr. and Mrs. Alvin Strutz, Jr.)
- Mrs. Edward O. Cook—(Mildred Cook)
- Mrs. W. Cranmer Coors
- Mrs. Sophia Dispense
- Mrs. Eric Douglas
- Dr. and Mrs. George D. Ellis
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- Dr. and Mrs. Kenneth Sawyer
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- Mr. John Waugh
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IMPORTANT BOOKS NOW IN THE LIBRARY

- Western Land and Water Use—Mont H. Saundersen
- Doorway to Nature—Raymond T. Fuller
- A Garden of Peace—F. Frankfort Moore
- Diary and Letters of Josiah Gregg in 2 Vol., edited by M. G. Fulton
- Grow Your Own Vegetables—Paul W. Dempsey
- Be Your Own Gardener—Sterling Patterson
- Rock and Water Gardens—F. W. Meyer
- Within My Garden Walls—Georgia S. Whitman
- Bulbs for Your Garden—Allen H. Wood, Jr.
- Herbs, Their Cultivun and Uses—Rosetta E. Clarkson
- Hawaiian Flowers—Lorraine E. Kuck and Richard C. Tongg

REPRINTED FROM THE AERO-MIST NEWS

The key to controlling Dutch elm disease may lie in keeping the soil alkaline. Several trees in Denver became infected with the disease. At the same time, beetles which spread the infection increased alarmingly, and conditions were right for a serious outbreak. But instead of spreading, it died out. Significantly, Denver soils are highly alkaline. On the other hand, the disease is worst in New England, where most soils are strongly acid.

COLORADO-WYOMING ACADEMY OF SCIENCE

The twenty-second annual meeting of the Academy will be held at the University of Denver on April 27 and 28. All interested in the latest scientific thought will enjoy these sessions. Call Moras Shubert for details.

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LORD & BURNHAM

Des Plaines, Ill.
Dr. McFarland's
Memoirs of a Rose Man
Tales from Breeze Hill

This is the story of how the "tail end" of a vineyard was converted into a beautiful yet simple garden of roses. He tells, intimately, of the circumstances which, early in his life, interested him in plants. He recounts the successes of Dr. Mills and Walter Van Fleet, a doctor of medicine, who also loved roses and devoted much of his talents to their culture. Down through the ages doctors have figured in the life of plants. Today, many of our skilled physicians and surgeons are better able to carry on their trying work through relaxation in a garden. Dr. McFarland's book is humble enough in size; he had the ability in writing of the beauty of any plant, including much cleverly-concealed culture, to do it with a minimum of words.

The rose man from Breeze Hill shared his great love for climbing roses with other climbing hardy plants — wisteria, honeysuckle, clematis, ivy — and was particularly fond of flowers with fragrance, which may account for the inclusion of Philadelphia in his book. There is his usual frankness in his comparison of roses to people. Some, he found, great in spirit, kindly, generous and some, he wrote, "disappoint." No one was more disappointed than Dr. McFarland when any rose failed to meet the high standard necessary for acceptance and introduction. You will be held by every word in these Breeze Hill Memoirs. Dr. McFarland's sympathetic handling of his own life has given new meaning to the rose.

Before the publication of this book, Liberty H. Bailey wrote in the preface, "I am glad that a memoir of Dr. McFarland's life and work is to appear. It will keep his influence alive. He stood for everything good." Helen Fowler.


We rush out into our gardens, pruning in hand and without knowing one correct rule for shaping, preserving or even saving a shrub, we start lopping the tangled branches and assume we are pruning, not realizing that both root and top systems must be considered and kept in proper balance. Again, we must be careful not to prune shrubs about to bloom.

The PRUNING BOOK tells the full story, what to do and why, for flowering shrubs, fruit and shade trees, evergreens and hedges. It is written by a man who ought to know. After reading it, you will have lots of fun watching a reputable, licensed tree man do the job.

Helen Fowler.

Questions and Answers

How are Phlox subulata and also Iberis propagated, please tell me what preference do primulas have? Denver.

Phlox subulata is increased by root division in the spring or autumn, or by cuttings in July; for Iberis cuttings can be taken at the end of July or early August. Seeds may be sown in March or as soon as ripe. Here in Colorado primulas prefer leaf mold and sharp sand. They must have shade. In one garden in Colorado I have known primulas to succeed in the full sun but they were watered heavily every single day. They should not, however, be planted in the sun as they definitely are shade-loving plants.
OUR beautiful city may well be proud of its many large and attractively landscaped home grounds with their carefully planned flower, vegetable and small fruit gardens. Besides these elaborate displays of plantings, however, we also have thousands of small homes with only limited space for a garden, whose owners, nevertheless, are anxious to make their home grounds as attractive and productive as possible. To them especially, we offer a few helpful suggestions.

The home must be given the proper setting by the plant life which surrounds it, so that the entire home ground, including the garden section, forms a harmonious unit in color, neatness, arrangement and general pleasing appearance. Hence, correct planning, planting and care of the home grounds are essential. In other words, you must know what, where, when and how to plant and care for, and why you do your work in that particular way.

Nothing beautifies the home ground more than a well kept lawn. It is the green carpet surrounding the home. A few well chosen plants placed at doorways and corners or some other strategic points are all that the average home needs to soften its lines and tie it into the landscape picture. This is known as the foundation planting.

The intimate garden with its rock garden, lily pool, sun dial, bird bath, and inviting bench and table is the outdoor living room. Screened in by vines and shrubs, it is a place where one may relax in privacy or serve meals and entertain guests in the summertime. If not such an elaborate place of retreat, every small home owner can at least afford to have a small arbor or summer house covered with vines near the rear of the house, where the housewife can sit outdoors while peeling potatoes, darning socks, or just relaxing.

For an effective display in the flower garden, select and group your annuals, perennials, and roses with special attention to height, color harmony and season of bloom, showing something in bloom at all seasons from early spring till late in the fall. For your vegetable garden, select varieties that rate high in food value, that the family likes, that are suitable for the available space, and that you know will grow successfully.

Arrange your plan for a spring, summer, and fall garden, planting your fall garden in the same space occupied earlier in the season by the spring garden. Work out a planting table for each month. Where space is very limited, flowers and vegetables intermingled provide a harmony of color. For example; after the cutting of asparagus has stopped, plant cosmos in the asparagus bed. Plant a few petunias in the melon and cucumber hills. Between Verbena or Phlox drummondii borders, you may plant rows of late beets and carrots for autumn display. Lettuce and parsley may also serve as borders.

Small fruits may be planted where ever there is available space. The small fruits such as strawberries, currants, grapes, etc., should find a place in the home ground plantings. Train grapevines on a trellis or fence and use fruit-bearing shrubs and vines for screens and hedges. In pruning always bear in mind giving shrubs, vines and trees a graceful appearance.

Know your soil and improve it by making and using compost. It is one of the keys to successful gardening and home ground beautification. And finally, keep your plant life in a healthy condition by proper cultivation, irrigation, fertilization, dusting, or spraying.
ROCKY MOUNTAIN HORTICULTURE IS DIFFERENT

By George W. Kelly

Published by The Green Thumb Council, 1951.

Not only is Rocky Mountain horticulture different, but also is "George Kelly's Garden Book" on it. Incidentally, it is the best garden book I know of. Those who know George Kelly would expect his product to be different and best. The author is no "arm chair" horticulturist. A lifetime has been spent in preparation.

So many garden books are but rehashes of those that preceded them, and written without actual, specific experience—successes and failures. George, as he is called by the thousands who know him and depend on him, is a student, a practical nurseryman of many years experience, and for the past six years, has been Horticulturist for the Colorado Forestry and Horticulture Association. He is the top authority in the country on Rocky Mountain plants. Combine those qualifications with the soul of an artist and the enthusiasm and industry of a zealot, and it is no wonder his "Garden Book" is a distinctive creation.

First of all, it is a MUST for every houseowner in Colorado, whether he or she be horticulturally minded or not. (And all can afford it at $1.50.) Everyone in Colorado has a lawn, and here, for the first time, is the latest and most authoritative information on its care and the destruction of dandelions, weeds and crab grass. Everyone has trees, and at least a few shrubs. From this manual he can learn the easy way to maintain them and prune them. Even the housewife, who wants to know what plants she can grow or her mantle in the living room, finds a carefully selected list of fool-proof homebodies. The book covers everything: "How Rocky Mountain Horticulture is Different," with analyses of our soil, water, bugs and diseases; "Planning, Planting and Pruning," all phases and full details; "Plants to Fit the (Colorado) Climate." All of them. Evergreens, deciduous trees, shrubs, perennials, annuals and even herbs. And finally, "Gardening by the Month"; what to do each month of the year.

To me, the fillers at the bottoms of pages are the most priceless of all. They are Kelly, pure and simple. In them is packed information, charm and homely philosophy.

George, Colorado citizens are forever indebted to you.

Robert E. More.

Questions and Answers

At the far end of my property I need a coarse plant. What do you suggest? Salt Lake.

Low-growing buttercup, Nepeta glechoma, if damp, some Sedum and also Sempervivum, and the Bishop's weed (Aegopodium podagraria variegatum). There are others. These named are good looking and fit.

My Hollyhocks were poor last year with backs of leaves covered with spots. What is the trouble and what should I do? Albuquerque.

Your Hollyhocks are infected with the rust fungus. In the fall burn all top growth, this is foliage and stems, and in the spring apply dusting sulfur, especially to the underside of leaves. Repeat every two weeks or so.
FUN WITH GERANIUMS

(Continued from Page 22)

tap water. More than one feeding a month may produce sappy growth, and unattractive plants with few blooms.

Properly pruned geraniums produce better blooms and are certainly more attractive in indoor pots or boxes. It sometimes seems harsh, but pinching out tops and cutting back straggly branches is a wise procedure. Every gardener seems to learn by experience that it is not best to bring in the old plants. It is far more satisfactory to take cuttings even though it may take longer to get flowers.

Methods of rooting cuttings may vary. Some use wet sand or vermiculite and others root cuttings in water. We always cut just below a joint, for the roots seem to start there in either method.

Much can be said about varieties of geraniums and how to accumulate a collection. Like others, we began by trading with friends and we bought locally. After a recent pleasant visit with Mrs. Charles Kassler of Denver, we came away with a fine peppermint (tomentosum) nicely rooted, and generous cuttings of vari-colored Lady Pollack, Distinction, and a fragrant cut-leaf finger bowl variety. Mrs. Kassler's favorite plant is the splendid peppermint, a procumbent grower with large velvety "grape" leaves and a truly refreshing mint scent.

We prefer a variety of color and have only recently begun to collect the scented leaf types (which seldom bloom indoors) and the variegated leaf types. Ten plants from Lowstone's sills are now gayly blooming. These are most productive and we recommend the following:

Mme. Buchner—double white, compact and blooms often.

Enchantress—double salmon, large blooms, long stems.

Michell's Sensation—double soft scarlet.

Jean Pabon—double red, large flowers.

Mme. Jaulin—double apple blossom pink.

Jean Viaud—mauve rose.

Hills of Snow — green and white leaf, single red.

Suzanne—double orchid pink (very fine).

Iowa Pride (our name until correctly classified)—single pink with white eye. From Theodore and Marie Hefley, 1330 Chase, Mountian, Colo.

Charles Turner—ivy type, large pink blooms.

The scented leaf geraniums are grown for their variety and pungent odors rather than for the small blossoms they produce. Baird's of Oklahoma City, list 77 varieties in their catalog. In addition to the peppermint, we have seven plants from Carlton Villa seed including: Little Leaf Rose, Lemon, Snow Flake, Butterfly, Decipiens and Cody's Fragrant. Our pine-scented geranium is an attractive plant with a fragrant conifer scent. The fine cut leaves are edged with white.

If these are those who class the geranium along with antimacassars, pot-bellied stoves and other stuffy relics of the Victorian period, let it be said that this is a versatile plant well suited to the modern functional home. It reflects its surroundings and has always seemed a cheerful sort of plant. Geraniums need not always be in clay pots. Wooden boxes and brass containers are most attractive. We pick the long stemmed blooms and arrange them in low modern arrangements, and they make stunning corsages.

Insects and diseases do not plague the collector of geraniums. No spraying is required. Except for white fly which attacks the Martha Washingtons or Domesticums, there are no bugs to fight. While very beautiful, the Domesticums seldom respond to home growing conditions. We have therefore not included them. As a hobby, nothing has ever flourished so well for us. We still collect furiously and at the point of becoming eccentric, our standard greeting these days is, "Say, have you seen our geraniums?"

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Red Spiders, Aphids and Scale Insects sap the vitality of evergreens causing their needles to brown and drop. We recommend our CONTACTCIDE SPRAY to control this condition.

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Denver, Colo.
APRIL GARDENING

DON'T let April weather fool you, for we will have storms one week and spring-like days the next. Don't uncover all the things that have been protected with earth mounds or shade until the new growth demands it, for it is this sudden changing of temperature which is so hard on tender plants.

All planting should be done this month if possible, with the exception of Birch and some other slow-growing trees. If your nurseryman handles potted or dormant stock the season can be extended into May. Perennials can be moved almost any time with attached soil.

When the fine days give you the urge to work in the garden and there does not seem to be any seasonal work, spend your time improving the soil in your garden spots. Work in peat, manure or compost, or replace very poor soil.

Some dormant spraying can still be done before the leaves appear. This is becoming more and more important. Use the miscible oil spray for control of scale on Ash, Elm, Maple, Dogwood, Lilac, Cotoneaster or other deciduous things; and lime-sulphur on evergreens to control gall aphids and spidermites.

Start examining your Junipers, Spruce and Pine weekly for indications of infestations of Aphids. Look especially at the Colorado Junipers, Colorado Spruce and Pinon Pine. It is important to get these aphids when they first appear and prevent their rapid spread. If your trees are of any considerable size they will require the high pressure equipment of the commercial sprayers.

Finish up all necessary tree trimming now. All stubs from limbs broken in last fall's storm should be carefully removed. Check especially that no broken elm limbs are left which would make ideal breeding places for the scolytus beetle. We must be continually on the alert to avoid another flare-up of this insect in our elm trees.

Leave all but emergency trimming on shrubs until after they have bloomed. Clean up the garden now and remove trash and unnecessary material but do not remove the valuable mulch from the garden or lawn. We can have neatness without removing all covering of the soil. Learn to use the bamboo rake instead of the garden rake when cleaning up.

Start now training the lawn to expect water deep in the soil instead of only in the top 2 inches. Water the lawn whenever it is dry, but water thoroughly and then let it go until it needs it again, whether this is three days or three weeks. Reseed the bare spots and fertilize if the soil is poor or worn out. Covering the bare spots in the lawn with a growth of bluegrass or humus will prevent a lot of grief from weeds in the lawn later.

If you like to play with little plants (and what gardener does not) get a few flats of annual flowers started soon so that they will have about 6 weeks' growth when the settled weather comes, about the first of June.

Drive around and enjoy the first flowers that brighten the spring and give a foretaste of the big splurges of color to come later. Get out to the foothills some time and see the early things coming there. Soon the routine of watering and spraying and cultivating will keep you too busy to look around at other places.
SPRING, AND THE GARDEN CALLS AGAIN