The NATIONAL HORTICULTURAL MAGAZINE

JOURNAL OF THE AMERICAN HORTICULTURAL SOCIETY

JANUARY, 1936

The American Horticultural Society

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Publication Office, 1918 Harford Avenue, Baltimore, Md. Entered as second-class matter January 27, 1932, at the Post Office at Baltimore, Md., under the Act of August 24, 1912.

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The National Horticultural Magazine

Vol. 15 No. 1

JANUARY, 1936

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Published quarterly by The American Horticultural Society. Publication office, 1918 Harford Ave., Baltimore, Md. Editorial office, Room 821, Washington Loan and Trust Building, Washington, D. C. Contributions from all members are cordially invited and should be sent to the Editorial office. Advertising Manager, Mr. J. S. Elms, Kensington, Md. A subscription to the magazine is included in the annual dues to all members; to non-members the price is seventy-five cents the copy, three dollars a year.

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Volume Fifteen

Washington, D. C.
1936

Matthews

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Hoya carnosa

Thirty Important Vines for California

Katherine D. Jones

This study on the climbers cultivated in California has been undertaken in the hope of inducing any who grow these rare vines to publish the results of their experience and so save gardeners hereafter some of the bitter losses they themselves have had to meet as pioneers in the introduction of new plants. Many of these vines can be grown easily if we only know what the plant requires as to soil, culture, protection from heat or cold and the amount of water required, things that the English learned long ago for their own country. We realize that California is young, but already several races of people have lived and grown plants here, some of them with remarkable success, and yet we have had little benefit from their published accounts, else we would not now have to be trying out plants in the same old ways, even giving up some very handsome and adaptable species which formerly seemed to be entirely suited to the state.

We also give illustrations of many of the present new introductions in order that you may become acquainted with them and feel eager to study more about their cultural needs, how they may best be used understandingly and successfully about our homes.

Climbers Growing in California

Schimper says that woody climbers or lianes had their origin in tropical rain forests where there was plenty of moisture and where the competition was so keen that they had to climb high to the light and the air. He also mentions that the West Indies and Brazil are famous for their lianes but that in Chile and New Zealand are the finest examples of extra-tropical epiphytes and lianes. Travellers from these warm countries are amazed at the size, the number of species and the manner in which these lianes twine themselves about trees as they spread from branch to branch and from tree to tree and bind them together so firmly that men are able to climb up the tallest and even walk above from one tree to another by means of their tough stems.

In California such fast growing tender climbers are best grown in Santa Barbara and San Diego where you may see innumerable vines climbing over houses, trees and high walls, covering roofs and giving color and gaiety to the scene. But northern California and the San Joaquin and Sacramento Valleys need not be discouraged since it is a proved fact in case of climbers that *develop a woody bark* that if they can be kept alive for three consecutive winters (either by mild winters or by artificial protection during the most severe frosts) *until their bark is hardened,* the chances are that they will then live for years under ordinary cold weather. A knowledge of this fact should encourage the growth of many evergreen climbers not only in the coast counties alone, but in regions farther inland. Further, is not a great deal of the tenderness of some vines in your region not due to keeping the soft shoots growing too late in the season, when water should have been withheld for some time before frost was expected?

Nurserymen usually divide vines into Climbers and Trailers, the Climbers being the tall erect, more or less weak-stemmed kinds that need support, while the Trailers are the short, more or less pendent ones that sprawl over the ground or droop from hanging baskets.

But landscape architects must go further than that as they must think of vines by their uses and should study their method of climbing and the kinds of support best suited to their needs.

A. First there are the SCANDENT SHRUBS. These are usually fast growing and scramble up any way they can, though in gardens they are usually tied to some support to keep them within bounds. The Cup of Gold (*Solandra guttata*) and the Italian Jasmine (*Jasminum humile*) are good examples.

B. Next come the CLIMBERS, which may be still more divided since they get up into the air in various ways; as by twining, tendril bearing, aerial rootlets, clasping petioles, and disks.

1. TWINERS rise by twisting their stems about a support, such as a wire or string or tree, as do the hop and the morning glory. It is a simpler method and such vines are good for screens, or garlands, or festoons, as they may be guided on a string wherever you wish them to go.

2. TENDRIL-BEARERS. Those plants that use tendrils have the greatest advantage of all in climbing high and are therefore especially useful for climbing trees. Many of the lianes in subtropical forests are of this class. But they are also likely to be fast growing and dense so there is danger of shade killing your tree or breaking it down from too great a weight of foliage. The Passion Vines (*Passiflora*) and many of our so-called Bignonias belong to this category. Charles Darwin once stated that the tendril that curls two ways is the most perfect of nature's contrivances, since a sharp pull by the wind does not break the tendril away from its support but allows it to give.

Not only are the tendril bearers good for trees but they are used on trellises or chicken wire to mount high or to fill wide spaces. It is this type of a climber that gives so subtropical an air to Santa Barbara and to San Diego.

3. The TENDRIL BEARING vines with DISKS or CLAWS, such as Evergreen Trumpet and Cat's Claw Trumpet are suited to wood, stone, brick and cement, and are capable of covering spaces of immense height and width. They climb unaided. On recent years we have been having difficulty in making this type of vines stick to our popular white Spanish houses or bungalows as the sizing used by the builders contains too much acid for the tender tips. The result is that it is useless to plant this valuable type of vine on these houses until another kind of sizing has been used. There has been so much indignation against this loss of climbers that a new sizing has been put on the market and we are now in hope that relief is in sight.

4. Next are the vines with AERIAL ROOTLETS, such as English Ivy and Creeping Fig. They are very useful for climbing trees or cement or concrete walls, but not wood, since the roots injure wooden houses, especially those that are to be painted.

5. Then come the vines that mount high by means of CLASPING PETIOLES, such as Clematis and Maurandia. *Clematis montana* was especially beautiful on a half grown Monterey Cypress tree on the University of California grounds where each

spring it covered this formal young tree with its pure white flowers—each one in plain sight.

C. TRAILERS or creeping plants which are seldom of great length are used on embankments, for ground covers, for hanging baskets or even as edgings to flower beds.

An American architect, returning from his studies in Europe where much attention was paid to the manner of training climbers, began to realize that Americans, especially Californians, were using vines with little thought of their relation to architecture. He found that we were smothering our houses with climbers and covering up and weakening some of the very features which he had labored long hours to make strong. The result was a campaign to educate the home gardeners on a few elementary principles of design—a few of which are herewith gleaned from various sources.

Climbers may be used in various ways:

1. To relate the house to the ground and make it fit into its surroundings.

2. To emphasize some feature about the house, such as an entrance door, a window, a chimney.

3. To emphasize a wall. For this use a vine, like Boston Ivy that lies flat on the wall and does not obscure the planes of the wall surface.

4. To soften a wall. Use loose feathery vines that stand out from a building and break up its outlines, such as clematis of all kinds, *Distictis lactiflora* and bignonias.

5. To make patterns on a wall as the Spanish love to do.

6. To decorate arbors and pergolas. Use gracefully falling vines that partially hide the construction, but do not stand stiffly erect above it. The ideal one also has the flowers falling through to hang in plain sight —wisteria, *Passiflora racemosa.*

7. To separate one section of a garden from another by use as hedges on wire netting, or on posts and wire.

8. To beautify, or to enframe a view.

9. To screen unsightly features, as a barn, a laundry yard or an outbuilding. Such vines should be fast growing, not so handsome as to attract attention to the very features that they are to hide and should be dense enough to screen adequately without shutting out too much light and air.

Changes of Fashion in the Use of Climbers

To see how far we have gone in a knowledge of the plants already introduced, let us review some of the changes in fashion of our vines in the last twenty-five years. We would like to appreciate some of the subtle charms that may be wrought by the skillful use of climbers and to record some of the happy combinations, whether by accident or design, that meet our eyes in our ordinary daily walks in life.

Years ago in California our cottages and two-story houses were smothered by quick-growing vines, especially white and yellow Banksia roses which climbed with great abandon up the sides and over the roofs. Sometimes the effect was charming but more often it became a bewildering tangle while nature worked joyously overtime in soft air and happy environment.

The equally vigorous Hall's Honeysuckle, or its near relative, the Red-veined Chinese Honeysuckle, was used over porches, pergolas and fences in wild abandon. Unless these were

properly pruned every year or two they became too heavy for their supports or the lower layers of branches became shade-killed by the luxurious growth and made unsightly masses that obscured the architecture or even destroyed the beauty of its lines.

But Santa Barbara shows the greatest change in fashions in vines and we will review changes seen there in the last twenty-five years.

In Santa Barbara, due to the influence of the architects, backed by Art Commissioners and public spirited citizens, there grew a feeling for fine buildings and a reputation for artistic homes and beautiful business blocks. The style of architecture is largely Spanish with more or less wide white wall spaces and small windows. This brought about a change in style of climbers. Instead of the tall growing Evergreen Trumpet Vine (*Phaedranthus buccinatorius*), the wide-spreading Wonga-wonga Vine (*Pandorea pandorana*), or the bright colored Passion Vines (*Passiflora*) that were so much in evidence in the early days, we find a decided change in the style of vine planting. They are now making patterns on their walls, rosettes, garlands along the low roof lines, wreaths about their windows, restrained planting of dark foliage vines, such as English Ivy and its varieties, in pots on either side of a doorway where the two meet as one over the opening. The wide-spreading vigorous vines have now been restrained to follow certain patterns of trellises fastened to the house about windows and doors. They have all been patiently trained and tied to treillages, showing an immense amount of work by men well trained in the art of pruning. These huge blank walls have called for tall, wide-spreading vines and nobly has the Bignonia family come to the rescue, though now mostly under new names.

Formerly lantanas were in great demand, not only *Lantana camara* but four or five of its dwarf varieties. They were seen everywhere and in the hot afternoon the color was too exciting and not restful as the Spanish atmosphere demanded. At last we tired of them used in hedges, borders and as bedding plants instead of the old perennials that we have since learned to grow. Araujias, on account of their quick growth, were quite popular for a time but are now seldom seen, on account of the disagreeable odor of their bruised leaves. They never crept into our affections as has the gay *Distictis lactiflora*.

Another change has been the manner of covering the walls of terrace or house and keeping the vines within a certain height, say two-thirds of the height of the whole wall. There seemed to be a wire to mark this distance and all vines, even the tallest growing, were ruthlessly cut down to this height — Flaming Trumpet (*Pyrostegia ignea*), Evergreen Trumpet Vine (*Phaedranthus buccinatorius*), Cat's Claw Trumpet (*Doxanthus unguis-cati*), all had to bow to this rule of space relation. Such was the usage in some of the charming old Country Houses in Tuscany near Florence. It is hard to say whether it was the fashion brought down from ancient times or a modification of old Tuscan methods by the English who have bought homes in the north of Italy. At any rate, it is a fashion that is now gradually creeping into Santa Barbara on their Spanish houses.

Allamandas and *Aristolochia elegans*, formerly grown, are now seldom seen as they will succeed only in the most sheltered positions.

Passifloras of many kinds, espe-

cially *P. manicata,* were quite common, but now are seldom seen, excepting *P. alato-caerulea* and *P. racemosa,* due to the ravages of caterpillars.

Solanum Wendlandii formerly so much used about the Mexican and Spanish gardens, is now seldom seen.

Stigmaphyllon ciliatum was introduced into Santa Barbara in 1880, and though it has remarkably fragrant orchid-like flowers and very attractive leaves it is still astonishingly scarce.

At Santa Barbara they also frequently use formal beds filled with flowering vines with low hedges about the beds; this instead of grass, which has been largely supplanted by *Jasminum azoricum* and English Ivy of various varieties, Crimson Lake Bouganvillea, and *Trachelospermum jasminoides* with *Myrtus communis* hedges, a little taller than the edging required for *Jasminum azoricum.*

There are days in Southern California when the rays of the sun are so trying that one can hardly keep the eyes open enough to see the ground upon which one treads. This is due largely to the reflected light. It is also due to the dazzling light of the atmosphere which some twenty-five years ago set the artists to send out the idea that countries with such reflected light could not show shadows on their architecture and therefore brilliant colors should be planted about such homes. Now come Marjorie and George Kern, landscape architects of Los Angeles, again advocating the use of highly colored plants because they say "Let the home builder build his colors with a bold eye for the dazzling light of the atmosphere absorbs so much color that only the strongest tones are effective. Also the color of the containers help largely in the garden picture, such as red pots for geraniums, yellow pots for nasturtiums, and blue pots for lobelia and petunias to enhance the color of the flowers."—From November, 1935, *House and Garden.*

Mr. Eberlein, in his "Villas of Florence and Tuscany," has charmingly given the characteristics of the Tuscan architecture about Florence, how on account of unsettled conditions of the country, watchtowers were essential and then the stronghold and the dependencies gathered about them; how these finally enclosed a space called a courtyard or cortile, and how the loggia became a part of the house looking out into the courtyard or the garden.

These loggias are now being increasingly built into our California houses and may be seen from Southern California through Carmel up to San Francisco and farther north. Their planting to climbers thus comes within the scope of our study.

Vines may be found on the residence draped gracefully over the outside surface of the loggia or they may be grown within the loggia itself climbing the ceiling and making a floral bower. Wax Plant (*Hoya carnosa*), Variegated Deeringia (*Deeringia amaranthoides variegata*), Small-leaved Creeping Fig (*Ficus pumila minima*) and Evergreen Burning Bush (*Euonymous japonicus*) are so used in a loggia, but more often the loggia is filled with bright subtropical plants in pots.

The loggia has descended to us from Tuscan Italy as a happy relic of the past and is becoming more and more a delightful feature of our homes, bringing in, as it does, the garden to our very door steps.

Last of all comes the fashion of the white house adorned with the white

garden. It seems to have originated in Santa Barbara and is gathering in force, especially in regions where the man of the family commutes and arrives home rather late in the day. It enables one to come into a world of light and fragrance which he otherwise had to *feel* rather than to *see*. The following is by Lockwood de Forest in *Santa Barbara Gardener* for July, 1928: "White walls, black green foliage, mystery, fragrance, enchantment, are the factors that lend to the building of the white stucco house of Latin type. The house may be excellent but the garden built of the English landscape tradition destroys all possibility of Latin atmosphere. The garden planned along the lines of the Asiatic type (that is, geometric pattern with balanced but usually unsymmetrical treatment of the plants in the beds), will give a foundation on which to build true Latin charm. Of the planting itself there are unlimited solutions, but one of them is always effective in any of its variations. By eliminating the color scheme and using white flowering plants only, a degree of dignity and strength can be obtained that is difficult to equal with any other combination. The fact of the white background for white flowers gives a subtlety almost unobtainable with any other medium."

"The possibilities of the white garden become apparent when going over the plant material. There are many foliage plants that should be considered when planning a white garden as the great variation of greens give the necessary contrast, while the variations of the white make a subtle harmony that is charming." The white vines seen in this garden were Azores Jasmine (*Jasminum azoricum*), Herald's Trumpet (*Beaumontia grandiflora*), Chilean Jasmine (*Mandevilla suaveolens*), Royal Climber (*Oxera pulchella*), Madagascar Jasmine (*Stephanotis floribunda*), Rigid Jasmine (*Jasminum rigidum*), Star Jasmine (*Trachelospermum jasminoides*), and White Jasmine (*Pandorea jasminoides alba*). The rare and choice shrubs and trees were Natal Plum (*Carissa grandiflora*), Chinese Holly (*Ilex cornuta*), Holly Osmanthus (*Osmanthus aquifolium*), Catalina Ironwood (*Lyonothamnus floribundus*), white hybrid camellias and the magnolia.

Climbers Cultivated in California

Actinidia chinensis (Chinese Actinidia, Yangtao), Dilleniaceae, Japan; Korea; Manchuria.

While this vine might grow well in all parts of the state, it should be most appreciated in the Sacramento and San Joaquin Valleys for its subtropical appearance.

Its dark rich leaves, four to six inches long, look well against house walls of any color but when used against a white wall it is far more attractive than when used on a brown wooden wall—due to the greater contrast in color. It will cover a space 30 by 30 feet and is somewhat scandent so that it must have a support. It looks especially well on a trellis, to which it may be readily tied, and makes a good cover for a fence; also an acceptable porch screen for summer and fall, then becoming leafless for the winter months to allow light and air into the living rooms. It is rather fast growing as it will grow ten feet in a season. It is not so attractive on a pergola as a grape vine but is much more rare. Also it takes more care to train it about a pergola post

Matthews & Duron

Actinidia chinensis

than to guide a grape vine and when it reaches the top of the pergola its shoots stand up stiffly where we desire a vine to lie rather flat.

The flowers are borne singly or in groups of three or more, but unfortunately they are more or less concealed by the leaves. At first a creamy white they later change to yellowish with buff lines and resemble a single rose two inches in diameter, although every now and then the petals seem to double. The yellow stamens are quite numerous but more or less hidden by many radiating styles with club-shaped stigmas. As the flowers are in bloom only about two or three weeks the value of the vine lies in its foliage and its large size, which adds a subtropical note to regions typically north temperate in appearance.

Glancing critically at the leaves you will see that the upper surface is dark green and shining with numerous veins that end in coarse fibres at the edges of the leaves like the sticks of an unfinished basket. There are also cross veins between the main veins, making these leaves distinctive and easily recognized once you see them. All of the veins are depressed on the upper side of the leaf and stand out prominently beneath. The under side is grayish, due to the numerous hairs on it.

The flowers which were cut for this photograph lasted two days in water while those left on the bush bloomed for two or three weeks.

It can be propagated either by seeds or by cuttings.

It casts too dense a shade in Berkeley's cool summers for an overhead shelter where we need shifting light to be able to sit outside, but in Fresno and Bakersfield the foliage of the actinidia will be none too dense. The fruit is over an inch in diameter and makes a tart sauce like gooseberry.

"Not generally grown in southern California because of its tenderness below 27 degrees. A vine on our lath house in Ontario froze each winter, but came back to make a fine vine. A large vine, 30 feet high, in Santa Monica bears fruit. Grows in full sun. Likes good drainage but this does not seem to be essential as soil in Santa Monica is adobe. Fruits on second year wood." (J. A. Gooch.)

"Wants south exposure as it frosts easily. Moderately affected by mealy bug." (Lucia Fox Edwards, Pasadena.)

Akebia quinata (Five-leaved Akebia), Lardizabalaceae, China; Japan; Korea.

This is fast growing, quite hardy and evergreen in most sections of California, though it drops its leaves for a short time in regions of heavy frost.

Its leaves are smaller than those of *Akebia lobata* but far more dainty and attractive since its elliptical-ovate leaflets are arranged in a semi-circle with their long petioles drawn to one center, holding each leaflet in full sight.

The flowers are maroon, almost chocolate in color and rather inconspicuous if compared with such flowers as the *Campsis radicans,* but they are interesting botanically from the fact that there are two kinds of flowers on the same branch — the staminate, or smaller ones at the ends of the racemes, while the larger pistillate flowers are attached below them. They bloom either in March, April or May for several weeks, depending upon the locality, and are prized for their fragrance. They are soon followed by pinkish-white fruits 2 to 3 inches long, which quickly change to lavender with age. The fruit does not last long enough to be really orna-

Matthews

Akebia quinata

mental, but is said to be edible and eagerly sought for in Japan.

The akebia may be propagated in various ways, by seeds, by cuttings—either hard or soft wood—by layering or by root division.

Prune it according to the use you are to make of it. If a dense screen is desired, prune to keep it clear of dead wood; if for a column or a pergola then keep it to one or two stems of young growth.

It is recommended more for the texture of its foliage masses than its flowers and is used especially for arbors and pergolas as it makes an adequate shade on top and yet the foliage on the sides can be made to hang evenly to the ground. It can also be trained around pillars or columns if young shoots are used.

As a fence cover it is very satisfactory. One vine can be made to go far on a fence even for thirty feet, rather than planting many specimens to grow only in an upright position.

Five-leaved akebia is also used for walls of houses, for stumps of trees or better yet, for climbing trees themselves. It is very attractive over the rails of a rustic fence, even more picturesque than the Small-leaved Creeping Fig which was also used for the same purpose. The akebia stands out more naturalistically while the creeping fig clings tightly and shows the exact outline of the structure.

As a ground cover in Golden Gate Park it was lovely over some brownish-gray rocks, better than Boston Ivy which is also used for the same purpose.

Akebia quinata likes the sun, though it will grow in shade, must have good drainage and no sour soil. Mr. Vortriede, State Gardener, recommends it for Sacramento region as being "one of their best fence vines since it is extremely healthy and clean, does not grow rank, is a good green color and dust does not get on its foliage." It can therefore in general be recommended for the Sacramento and San Joaquin Valley regions.

"Not popular in southern California because of lack of color and its deciduous habit. Will grow in half shade or full sun. Does well in heavy soil. Blooms in early summer. Loses leaves late and is back in leaf early. Best used as a cover for stone or brick walls. Likes strong pruning as it blooms on new wood." (J. A. Gooch.)

"Growing for six-seven years in absolute shade with no attention except water. Roots fairly on top of an old Cypress tree's roots. Blooms each year during early summer and has a spread of some six feet and height of some fifteen or more in the Cypress Tree." (Nova Beecher.)

"Blooms in April for two or three weeks, likes half-shade. No special care. Will stand sandy soil." (Lucia Fox Edwards.)

Note: In order to show you the flowers we have sacrificed the beauty of the leaves as the young ones here shown are soft, immature, and lack the size and texture of the mature leaves which are really dainty and picturesque, with enough grace to appear charming in every location.

Ampelopsis arborea (Pepper Vine), Vitaceae, North America, Mexico.

This is an interesting deciduous climber from our own North America and native to the southern states from Virginia to Florida; also found in Mexico.

While it will not survive the rigors of northern United States it is quite happy in California, especially so in

Matthews

Ampelopsis arborea

the San Joaquin Valley, where it thrives luxuriantly and is used on house walls, pergolas, a screen to porches and also to climb trees. Miss K. O. Sessions introduced it into San Diego about 1913 and planned to use it as an embankment plant since it suckered freely and seemed to lend itself to ground cover use. It was sold to her as an evergreen vine by the Biltmore Nursery but has proved to be deciduous in San Diego.

At Madeira it is on a pergola, mingled with Hall's Honeysuckle, roses and grape vines but it generally managed to get to the top to the light and air and thus demonstrate its great vitality. It hangs down gracefully for two feet over the top of the pergola. Its leaves are twice compound and very pleasing in appearance. They are a l t e r n a t e because Dame Nature changed one of each leaf into a tendril to enable the plant to climb up twenty or forty feet, more or less.

There seem to be two ways to handle this plant. In Modesto it is cut to the ground each year but suckers and comes up fresh and tender, while in Fresno Mrs. Cook grew it to one stem, one to two inches in diamter, which kept alive all winter. This growth probably did not die down each year because of the numerous protecting trees growing on Mrs. Cook's place.

If the San Joaquin people tire of their much used Virginia Creeper and their Boston Ivy, why not give this Pepper Vine a trial? It is not usually so vigorous and tall as they, its flowers are of no consequence, but its shining black seeds, as large as a pea, add much to the picture.

Antignon leptopus (Rosa de Montana ; Love Vine), Polygonaceae, Mexico.

A vine which is reported as blooming from spring to autumn in regions of heat and moisture or from late summer into the fall in less favored regions. Reports on the blooming period vary greatly in the different sections of the state—from June to October or from September to October. It also flowers young, as a plant two years old was four feet tall and in bloom. It had also bloomed the year before, but it is not wise to recommend its blooming in one year as people have many times been known to have impatiently pulled its tubers up after one year's growth. It is better to allow three years before it becomes spectacular in any way.

Its flowers are pink the same shape and with the same kind of seeds as the buckwheat. Sepals five, colored to take the place of the corolla, two of them narrower than the others. The flowers are in auxillary racemes and also in tufts on the ends of the branchlets. There may be as many as twenty-three flowers in one raceme. It climbs by tendrils on the ends of the racemes and can mount trees as high as forty feet. These tendrils are two to three inches long when young with side tendrils. Afterwards they twist and turn until they are only an inch long as it strives to lift the plant high in the air. Mr. Reeves of Beverly Hills said, "It grew five feet this year and is just beginning to bloom. It is deciduous, dies down every year here, but not so in Mexico where it is only partially deciduous. I never saw such a sight. It was growing along the beach as far as your eye could see and one-eighth of a mile toward the timber. It hangs from trees and crawls along the sand for five miles in one solid sheet of pink; wonderful."

Mr. Gooch reports, "It grows like

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Antignon leptopus

a weed in Imperial Valley and near the sea at Laguna Beach and in Coachella Valley on a male date palm. It dies down to its tuber each spring. Our plants in pots, however, are evergreen. It is hard to move these tubers that are grown in the ground as they are usually lost when we sell them other than from pots. They made a tremendous growth in one year. Just after its dormant stage the tuber is subject to rot, probably due to overwatering. So we advise our customers not to water Antignon during this dormant stage. It thrives in any of the sections of southern California, including the milder desert region. Even in colder sections when frozen down in winter it grows again in spring from its tuberous roots and blooms throughout the summer. Its tendrils enable it to climb over anything. It cannot be grown in heavy soil unless drainage is provided or water applied with care. It is quite hardy in all sections of southern California but thrives at its best in Coachella Valley near Indio where it grows twenty to thirty feet. Vines cover large areas and make date palms look like hugh bouquets. Blooms from August to October. Dies back following its bloom."

Barnhardt says, "Where the lemon can be grown this subject is hardy, covering a large space with its dark green crinkled foliage. Where black scale abounds this plant is its prey but where the winter temperature is cold enough to kill the tops it is an herbaceous plant; growing vigorously from the tuberous roots and blooming profusely. If the vine is taken down and covered with dry earth or sand and kept dry it will survive the winters of any of the interior valleys of the state. It is worth all the care necessary to keep it free from scale pests or frost."

Miss Nova Beecher says, "Where only the morning sun hits it, it has grown fifteen feet, quite thick in the two years it has been planted. The first year it bloomed profusely, this year hardly at all. Do not know if it is hardy, for these two past years have been mild."

"Blooms in August for two months. Like sun. Hardy. Fairly profuse bloomer." (Mrs. Lucia Fox Edwards.)

Araujia sericofera (formerly *Physianthus albens*), Asclepiadaceae, Peru.

This is one of the evergreen vines that can be grown in regions of frost, hence in the Sacramento and San Joaquin Valleys. The leaves are opposite, entire, from two to four inches long and about an inch wide. They are a good dark green above, nearly white below and when injured throw off a milky juice and a foetid odor.

The flowers are pink or white and are borne in cymes of two to three flowers at every node. These flowers mature at different times and prolong the blooming period from about May until heavy frosts, providing too many pods are not allowed to remain and divert its strength. These flowers are interesting with their five-pointed stars and an inflated tube that sits comfortably in its calyx. These flowers, and especially the unopened buds, are exquisitely formed. They are so architectural that one wonders why they have not found their way more generally into artistic stone work or other arts as they seem to lend themselves to such treatment with their rigid formal looking flowers.

Plants may be grown either from seeds or cuttings, those from seed planted in July at Napa were in

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Araujia sericofera

bloom by the following October, in a little over a year. It is said that plants with milky juice are hard to root from cuttings.

Its fruits come on in late summer. They are quite large, from two to three inches long and shaped something like those of the milkweed and like them are filled with seeds that have wings to waft them away far from the mother plant.

It climbs by twining and twisting itself about any object within reach, and is especially annoying by twisting in knots about its own stems. It is not a vine that can be easily trained but must have its own sweet way, which debars it from many useful purposes. However, it has been seen climbing up the side of a house on a wire, as a porch screen, on high walls and as a winter protection to a lath house where rare plants were kept. But as the danger to the plants under the laths was from summer sun even more than from winter cold a second vine was planted with the Araujia, the deciduous Chilean Jasmine (*Manvilla suaveolens*).

It is apt to have scale on it but is also an enemy of insects as it is another of the plants that lure them by its sweet honey and then slowly entrap them.

It keeps well for four days as a cut flower and bears close scrutiny on account of the perfection of its flowers. It has been praised by a San Diego man as having flowers equal to in size if not larger, than those of stephanotis, but in the San Francisco Bay region, the araujia does not compare with it either in beauty of flower or leaf or fragrance.

It seems to be somewhat drought tolerant and is used mostly as a pergola vine as it covers the overhead structure well, but is leggy below and must be supplemented by a shrub or by some other vine to hide this defect.

In some localities it resows itself over the whole garden and is almost a pest.

Araujia sericofera seems to be admired in a way but there is no deep affection for it possibly on account of the milky juice which streams from it when bruised and especially when the seed pods are removed early in the season to prolong the blooming period.

Asparagus falcatus, (Sickle Thorn), Liliaceae, South Africa.

Although this is a rather new introduction and seems not to have been tried out very generally it has great promise, especially for the southern part of the state. Instead of leaves it has cladodes, which closely resemble leaves. These are a dark green, two to four inches long and about a quarter of an inch broad. They do not cast a deep shade and are thus especially fitted for lath houses where they give shifting shade to the plants. In La Jolla it is a perfect lath house climber where it grew at least twenty feet in two years with a spread of forty feet. Here it is very fast growing, a dark feathery looking green that stands the harsh ocean winds and makes a good contrast with the blue sky and the green ocean near by. In the lath house were also quantities of bignonias, mostly in shades of pink and red, so well and successfully grown in San Diego. There were also various filmy ferns, both tall and short, that added greatly to the appearance of the collection.

In northern California the Sickle Thorn is very successful and is quite hardy as it came up from the roots after our great 1932-33 freeze. It is growing well in shade under a small

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Asparagus falcatus

tree and has the appearance of being a permanence there.

It climbs by thorns that turn downward. It is thus easy to climb a tree but hard to pull down on account of the resistance of these thorns.

It is reported as growing in Florida but their climate causes it to grow coarse and vigorous and even woody.

"At Ontario where growing under lath, it shows little to interest the public. Seems to be shrubby and lacking in interest. Have not observed it out of doors." (J. A. Gooch.)

Asparagus plumosus (Fern Asparagus), Liliaceae, South Africa.

A soft looking asparagus which may be used mostly throughout all sections of the state even where severe frosts may cut it to the ground. In Bakersfield it keeps green all winter with ordinary care or with slight shelter. Its true leaves are reduced to scales while its branchlets, called cladodes, are green and leaf-like. In the Asparagus Fern these cladodes are needle-like, the branches are triangular in shape and the whole effect is extremely graceful, especially if the flowers, as in our illustration, outline this triangular shape in tiny white flowers or in its small black fruit.

Fern Asparagus is highly recommended by nurserymen as a cut flower as it softens the appearance of even the most angular bouquets. But in hospitals it has been found that florists too often do not sell the *fresh* Asparagus Fern and the result is that the branchlets begin to shed their cladodes at once and make so untidy a mess that nurses bring in your fresh bouquet with its tidy green fern in all its fresh beauty to show you, but when they leave the room for a vase they return *without the fern.* If fresh fern had been supplied in the first place the cladodes would have kept a week without dropping. So as matters stands, do not buy bouquets garnished by Asparagus Fern for your friends in hospitals.

These climbers, fifteen to twenty feet tall or more, grow in sun or shade, have g r a c e f u l l y arching branches and give an airy lightness to any group. W. Robinson of England says they use it in a border of flowers or in a bed of fine-leaved plants.

It combines well with *Diosma ericoides* as they are of the same shade of green.

Used as a screen to the end of a porch in Oakland it was particularly charming combined with a climbing rose. It softened the browning leaves of the roses.

There are many forms of *Asparagus plumosus* sold by our various nurserymen, but they have discarded the one they called *Asparagus Hatcheri* as being particularly objectionable with cut flowers. They have a dwarf form, var. *nanus,* another one called var. *compactus,* and the so-called *Lutzi* which seems to be a trade name.

"It does especially well under lath or on the north side. Used as a filler for bouquets. Bears many seeds that turn black when ripe. Ten to twelve feet high. Old parts die and become unsightly if not pruned out. Likes heavy soil." (J. A. Gooch.)

"Berries from December-January. Fifteen feet high on a support. Any exposure. Does well on the north side of a house and in driveway, stands strong winds and drafts, light frosts." (George B. Furniss.)

"Very hardy; good in shade up to fifteen feet tall. Practically evergreen." (Nova Beecher.)

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Asparagus plumosus

Campsis radicans (formerly *Tecoma radicans*), Bignoniaceae, Trumpet Vine, Trumpet Creeper, Pennsylvania to Florida and Texas, U. S.

One of our native North American climbers that grows in moist woods from Pennsylvania to Florida and Texas and westward to Illinois. It also grows in swampy land in some of the Eastern states where it climbs trees and grows so rank that it is considered almost a pest. In less wet lands hedges are made of it to be bequeathed as heirlooms since it is considered long-lived. Such hedges might also be grown in California in the interior valleys as trumpet creeper is deciduous and grows its own fence posts while such evergreen climbers as we use for hedges in California need both posts and wires or a wire netting.*

Trumpet Creepers in full bloom on our noble American forest trees were a glorious sight and so impressed the early settlers on the Atlantic coast that they wrote glowing accounts of them and sent home seeds to England where it is known that they were cultivated as early as 1640. They bloom on new wood in summer and fall and consequently should be pruned after flowering. This pruning is done every year in England as their frequent rains cause immense growths of foliage. In California "it should be pruned at least once every three years to prevent the accumulation of too many dead branches." (Vortriede.)

*Trumpet Creeper hedges. "Set the plants three feet apart against some sticks, prune down to three feet to insure strong lateral branches. Before the sticks have rotted away the vines will have developed self-supporting trunks of their own. Train the lateral branches back and attach to galvanized wire strung from stake to stake. In a few years this hedge will grow increasingly more beautiful, a wall of clean, handsome foliage and gorgeous flowers, a heritage one is proud to bequeath to one's children."

It needs full sun to develop its best flowers though it will live in partial shade. It is hardy as it has been known to grow well from Davis through the Sacramento and San Joaquin Valleys as far as Bakersfield and also along the coast countries to San Diego. It is fast growing and should be given considerable room to develop. It likes rich moist soil but seems to do well in ordinary soil with an occasional irrigation or sprinkling from the hose.

Nature has been liberal for this climber may be propagated from seeds, hard or soft wood cuttings and by layers.

Its uses are various. It was planted on the side of a house on an archway to hide the front yard from the rear. It was quite charming in full bloom in August with the flowers on the ends of the branches in orange-scarlet clusters of twelve to twenty-five flowers in full sight, their tubes three inches long and the mouth of the flower nearly two inches. Underneath this archway to one side were gaillardias that carried the color note of the flowers and *Kerria japonica* with the same shape leaves as the leaflets of the trumpet creeper.

The leaves are compound, about a foot long with nine to eleven serrate leaflets, which give ample green to set off the flowers. They linger on until some time in December or January when the Trumpet Creeper becomes barren, drops its leaves and prepares for a short winter rest.

The trumpet creeper also makes good porch screens in summer and drops its leaves in time to let the sun into the house in winter. It will quickly cover an old rockpile or climb up tall walls. On an arbor, due to the weight of its numerous flowers, it bends gracefully down only partially

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Campsis radicans

hiding architectural lines. Or, if not wanted on an arbor, it will gaily cover a back fence or a rustic pergola or an out house. As it blooms in late summer and fall it need not conflict in color scheme with the early spring vines which are then out of bloom. In fact it can help to create a second color scheme in the garden in late summer and fall with such aids as the Cape Honeysuckle (*Tecomaria capensis*), Cross Vine (*Bignonia capreolata*) and the hybrid forms of *Lantana camara.* It is hard to tell just why this gorgeous climber is not used more in the San Joaquin Valley. In autumn this, or *Tecomaria capensis,* the Cape Honeysuckle, or the Cross Vine would brighten up many a dreary old garden.

"Quite hardy. Deciduous. Climbs twelve to fifteen feet. Not as showy as *Tecomaria capensis* which is used here more where conditions permit. Blooms in early summer on new wood. Not particular as to soil. Likes full sun." (J. A. Gooch.)

"This is the hardy old standby on our back fence. Cannot kill them, rooting everywhere it strikes earth. In sun or part shade, blooming from June to September. Give it plenty of room." (Nova Beecher.)

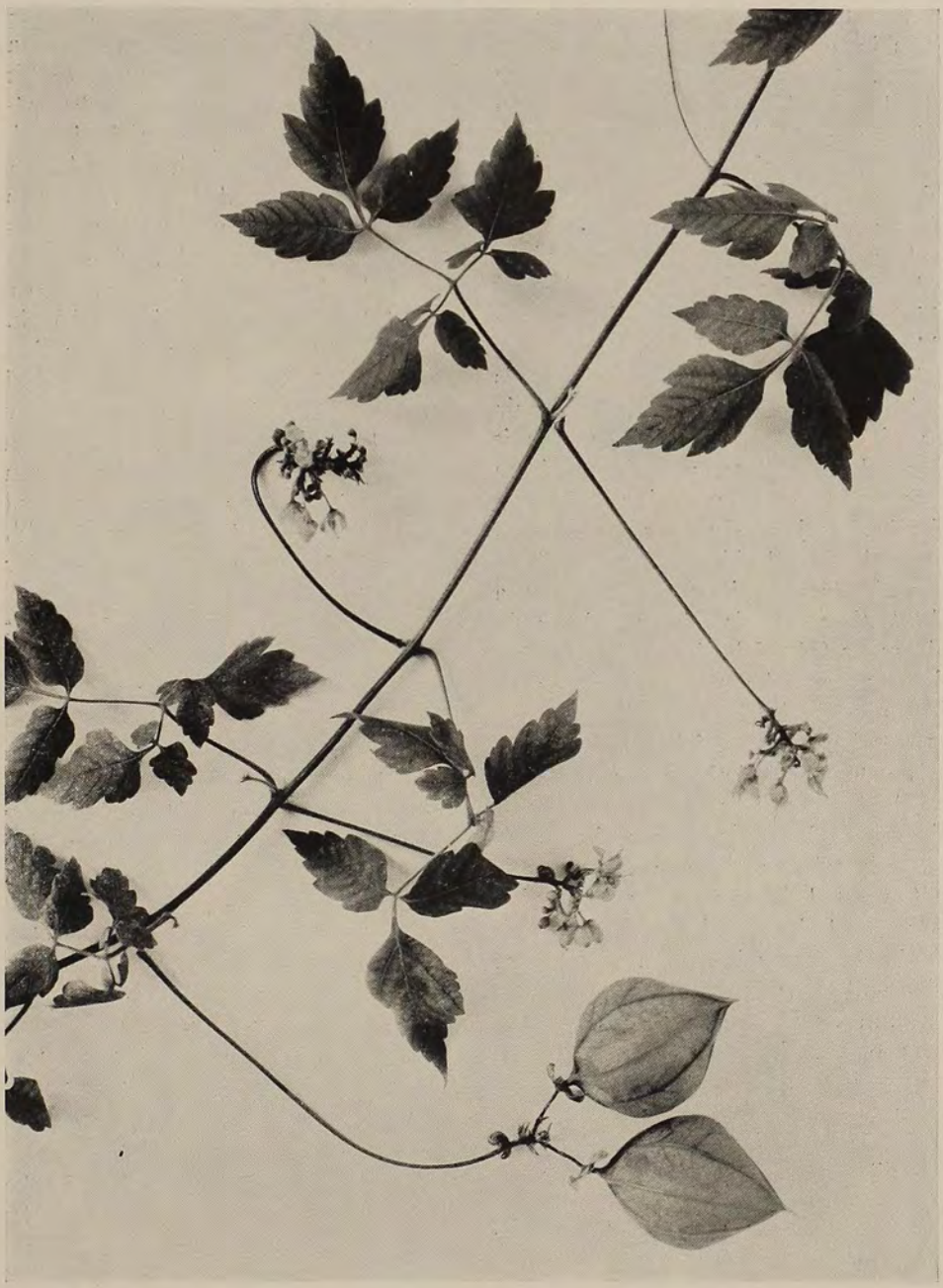
"Blooms in May for 4 weeks; large and woody; likes sun; is deciduous here and has black scale." (Lucia Fox Edwards.)

Cardiospermum hirsutum (Evergreen Balloon Vine), Sapindaceae, Africa.

Cardio = heart; *spermum* = seed. So named because there is a heart-shaped white mark on the dark seeds.

Of the thirty-five or more Balloon Vines listed in Index Kewensis only two seem to be grown as ornamentals in California. These are the common Balloon Vine (*Cardiospermum Halicacabum*) from Tropical America and the Evergreen Balloon Vine (*Cardiospermum hirsutum*) from Africa. These two species resemble each other quite closely, the leaves of each being biternate and coarsely toothed. Those of the Evergreen Balloon Vine, however, are larger, each leaflet more robust and the apex not so acuminate as in the Common Balloon Vine; also the stalk of the leaf is longer which throws the foliage further away from the stem and makes it more open. You may also distinguish them by their inflated pods which are round in the Common Balloon Vine; also pointed below in the Evergreen Balloon Vine.

There is also a difference in their hardiness as the Common Balloon Vine is often seen in regions of severe frosts such as Fresno, while the Evergreen one seeks a milder climate, and is more largely grown in southern California though it is doing well in the Bay Region, and was not killed when the thermometer went down to 17 degrees. As we have no photograph of the Common Balloon Vine we will leave it in the Sacramento-San Joaquin Valleys and turn our attention to the Evergreen Balloon Vine. Its tendrils are unique. They are opposite a leaf, on long stalks three inches when in flower and five inches when in fruit, and curl up like a cork screw but in two different directions, thus enabling the plant to grasp a support from any direction. Beyond it are the flowers and later the fruit, four or five of which can be supported by this pair of tendrils. These pods are fully as interesting as the flowers and far more ornamental. The pods are green, two inches long and an inch and a half broad. They are densely hairy and bear six ridges



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Cardiospermum hirsutum

or ribs from top to bottom, three of them being more prominent than the others. On investigation there are found to mark the walls to which partitions are attached on the inside, dividing the interior into three portions with one seed fastened to each wall. This partition is thin and crape-like and easily crushed. The interior valves of the pods are smooth and shining while every part of the outside is exceedingly hairy.

The Evergreen Balloon Vine is rather common in southern California especially in Santa Barbara where it is used on arbors, pergolas and on fences. In the Bay Region it is seen clambering joyously over bushes and upon the broad sides of houses where it will cover an immense space in a short time. It is always either in bloom or full of its inflated pods that dance up and down in the brisk wind. But best of all it loves to clamber over trees where the tendrils fasten themselves to every limb as it pulls itself up higher until it covers trees and shrubs with a green mantle. Fortunately when it intrudes where it is not wanted it can easily be pulled down and destroyed for otherwise it might be somewhat of a pest. One vine will grow thirty feet over a fence or quite as high on a house. It may be propagated from cuttings or from seeds but is grown commercially from cuttings.

While it is interesting and useful it will never have the affection of Californians which our more gorgeous or our more everblooming plants have usurped.

Clerodendron Thomsonae—Syn. C. Balfouri—(Glory Vine; Bag Vine), Verbenaceae, West Africa.

While this is a tender evergreen vine and seen only in greenhouses in northern California it is grown outside in southern California to a limited extent, though even there "it will succeed only in very well protected places and in partial shade." The late Mr. Lyon in his "Gardening in California" stated, "It is sometimes cut to the ground and recuperates itself to the point of flowering again the following season." Mr. Peter Riedel has also grown it outside in Santa Barbara so that we know that it is possible to grow this rare and beautiful plant if given the proper cultural care. It should be given a warm situation away from harsh winds, with plenty of moisture and should be sprayed occasionally with garden Volck. It is not the plant for the careless gardener.

As grown in eastern greenhouses it usually "blooms from May continuously through the summer until September" while at the green house in the University of California at Berkeley it has been continuously in bloom for over two years. Why this difference in length of time that Glory Vine blooms in California as compared with the eastern four or five months, both being in greenhouses? Our California specimen was fifteen feet tall in July and had twenty-two bunches of flowers upon it. These flowers are very showy consisting of five white calyxlobes, in the center of which is a single scarlet corolla, which lasts for several days; then the scarlet flower droops and is soon lost in the circle of the calyx which keeps its pure white color for about three weeks and then turns pink, a deeper pink, and finally purplish. As it still holds on it must be pruned off in order to make room for the new buds which appear shortly after the old flowers are removed. Pruning must not be severe and should rather be a

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Clerodendron Thomsonae

thinning out than a cutting back. Take care not to cut beyond the first joint or node below the flowers nor to injure the new buds appearing in the axils of the leaves. This is important as you do not care to cut off the chance of flowers which are borne on the short young shoots on the old wood.

The leaves are opposite with three strongly marked lines from the base and are about six inches long by three inches wide. These furnish all the needed background for the flowers.

Although the Glory Vine is a twiner it is found best to tie it to a support—in this case a pipe—to prevent its twisting its stems, which is not only a disfiguring habit but prevents the nourishing sap from reaching all parts of the plant. "It needs a great deal of water and suffers if allowed to get too dry. The first year it was given ammonium sulphate and Clay's fertilizer, but as the latter is rather expensive, Gaviota, a complete fertilizer, was used instead in the second year, while the ammonium sulphate gave way to calcium nitrate, which seemed to suit the plant even better. For a pot in the greenhouse use a teaspoonful of Gaviota to an eighteen-inch pot, but for a Glory Vine growing on the outside use sparingly one table spoonful to a gallon of water." Budd. The jet black fruit, enclosed in a calyx, is composed of four nutlets not quite separate at the base.

This specimen sets seed now and then. One of them when planted germinated in three weeks. It is now a plant a little over two years old and two and a half feet tall. It bloomed when less than two years old but it is disappointing so far, as its corolla has not developed any further than a small whitish knob, leaving the calyx flapping rather emptily.

Glory Vine is grown successfully outside in Florida according to Mr. Harold Mowry, and "blooms during the summer months." There they "grow them on trellises and arbors, or anything about which it can climb.' They propagate it by cuttings and do not mention seed.

This plant was first sent to Mr. Balfour of Edinburgh in 1861 by Mrs. W. C. Thomson, wife of a missionary on the west coast of tropical Africa. Balfour, being a botanist described the plant and named it *C. Thomsonae* after Mrs. Thomson, but since it was seen at Balfour's home in Scotland by plantsmen and gardeners they spoke of it as Balfour's Clerodendron, hence the confusion of calling it C. Balfouri. To have his name as author of a new plant is far more honor than to have a plant named *after* him.

"It is too tender for outdoor use in practically all parts of southern California. It makes a beautiful conservatory vine and one in a cloth house at Newport Beach was ten feet high and is beautiful. It blooms many months in the summer." (J. A. Gooch.)

Cobaea scandens (Cup-and-Saucer Vine), Polemoniaceae, Mexico.

What can be said about this attractive climber? The more it is studied the more fascinating it becomes. First of all it climbs by tendrils at the end of the compound leaves—young tendrils five and six inches long that at first are straight and then begin to curl and twist and turn until it has reached a support by which it may climb. It will go up a rough wall by means of its two-pronged tendrils which dig and cling with amazing strength as it goes higher and higher

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Cobaea scandens

and bears up those heavy leaves and flowers. The strength of these apparently frail young tendrils is astonishing. They will catch hold of a woolen coat and cling so tenaciously that they can only be torn away by a great effort. Their strength is all the more amazing when the size of these young threads is observed. They will also dig into your flesh with a surprising grasp though not quite as savagely as that of the Cat's Claw Vine. These tendrils are on the ends of the compound leaves and take the place of a leaflet which nature has transformed.

Each leaf is made up of from four to six leaflets, green, succulent and oval in shape while the lower pair is sessile and eared or hastate and has a flower bud set between them (illustration: page 27, detached portion on right, as it was out of focus). These flower buds are green, in the shape of five wings, which grow larger and larger and finally separate into the five-parted calyx which eventually forms the saucer of the cup. This calyx continues to grow into a leaf-like structure which protects first the flower and then the fruit until it ripens its seed, throws them out of the three-valved capsule and its work is done.

The Cup-and-Saucer Vine that was most observed for this article was from a self-sown seedling on the north side of an L-shaped house and was thus given protection from the westerly winds of the San Francisco Bay. The first year the seedling grew ten feet or more by means of a trellis on which it climbed with very little aid. The next spring it grew higher, up to and upon the roof, over the other side of the house and upon the summer house, a distance of thirty-five to forty feet. Another part of this vine climbed twenty feet to the eaves and then fell down in a sheet of flowers and a solid mass of leaves. Each flower was in the axil of a leaf, six inches apart, and hanging on long flower stalks fully a foot long. The effect was charming.

The large flowers were well in sight and easily observed. They were bell-shaped, three and a half inches long by two and one-fourth inches wide. At first they were green in the unopened bud, then turned lavender, violet and finally a deep purple. Five stamens hung far out of each bell, the versatile anthers hanging onto the ends of the long filaments until the pollen was discharged when each filament made a complete curl and tucked the useless anthers out of sight inside the bell. This process seemed to be aided by shortening the length of the filaments by a waving of their whole length and drawing them inside the bell—a very interesting contrivance. This vine began to bloom in May and in October, when last observed, it was still flowering profusely. It may safely be said to bloom at least six months in Berkeley or from April or May until the frost cuts off the flowers. This year early spring rains gave abundant moisture so the Cup-and-Saucer was never more beautiful. The ground cover beneath it was Wandering Jew which is quite in keeping with the shape and texture of the Cup-and-Saucer.

Beside forming a screen for porches this vine has been trained over an entrance door on the west side of a house. The effect was joyous; also interesting for one might study the various details as he waited at the door.

It seems to grow from the San Francisco region along the coast as

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Distictis lactiflora

far as San Diego and in the less heated summers of the towns like San Jose, Hayward and the like, but not in the extremely hot portions of the San Joaquin Valley where there is not enough moisture to grow it in summer.

Cobaea scandens var. *alba.*

There is also a White Cup-and-Saucer Vine which is lovely for those who seek an all white garden, seemingly a coming fashion. It is good over trees and in every other use that the purple-flowered form has been tried.

"It is grown from seed but is not in general use. Have seen it climbing on fences on Laguna Beach." (J. A. Gooch.)

"As an annual it used to be one of my mother's favorite vines, blooming readily from seed the first year. It is not grown now, perhaps because other hardier material has come into style." (Nova Beecher.)

"Very fast growing, 20 inches a year. Likes any s u n n y situation. Hardy, dies down but comes up again. Gets mealy bug and black scale." (Lucia Fox Edwards.)

Distictis lactiflora, Bignoniaceae, Mexico.

This is a rather recent introduction into southern California which had instant popularity on account of its gay color and long blooming season. It blooms for eight months in Santa Monica (Evans) and from June to November in Santa Barbara (de Forest), while in San Diego Miss Sessions reports that it blooms in summer and lasts until winter; thus filling a time between the early spring blooms and those of late fall.

It is reasonably fast growing as it is known to have grown fifteen feet tall and four feet wide in one year and has covered a space twenty-five feet wide in two years in Santa Barbara, and has been grown from seed to eighteen or twenty feet in San Diego in one year.

In Santa Barbara it is said to be hard to propagate as seeds are seldom borne there but it can be rooted from the tender tips.

It will grow either on an east, south or west wall (de Forest) and is reported as seeking the shade, though there are many instances of its doing quite as well in the full sun.

It is said to be one of the showiest vines of the sea coast region but we have hope of growing it further inland as it will stand frost down to 24 degrees. The specimen from which this photograph was taken, however, was grown at San Jose on the south wall of a brick building with ample sun and heat, but protected by a burlap for the two months of heaviest frosts. Therefore it was not killed in the 1932-33 freeze even though the temperature went down to 17 degrees.

The young leaves in opposite pairs have three leaflets but in the old leaves the third leaflet is replaced by a reverse tendril with three divisions by each of which the vine can cling tenaciously to many supports without breaking its hold.

The flowers are two or three inches long and fully as broad at the mouth and are in panicles at least six inches long and five inches broad. The ultimate division of the panicles are in sets of threes, the middle one coming into bloom first and followed later by the other two in turn. This increases its long blooming period, which continues as long as new shoots can be kept growing or until frost cuts them

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Doxantha unguis-cati

off. These flowers come out purple or blue-violet, first turn lavender and later become almost white, all three colors seen at the same time but quite in harmony with each other. The tube is almost white streaked with lavender while the eye of the flower is also white.

As one would suppose, *Distictis lactiflora* has become a general favorite as an ornamental, as it is especially pleasing when trained horizontally across the roof of a white one-story bungalow or growing high on a tall gray house as it is bright and cheerful and gives grace and color. Its flowers never appear crowded in their loose panicles and the leaves amply furnish a background to the flowers. The photograph was taken in November—late in the season, so that you do not see the profusion of bloom nor can you imagine the original gayety and sparkle as the wind tosses the flowers high in the air.

Take note and watch, for it will apparently go far in the affection of garden lovers and may eventually become hardy enough to succeed in the warmer interior valleys, since it can develop a woody bark.

"It is a fine bluish lavender trumpet vine. Fast growing, free blooming and hardy above 24 degrees. Blooms in summer for many months. Stands heat better than *Clytostoma callistegioides* (formerly *Bignonia violacea*) which it resembles when it is in bloom. The foliage is more like that of *Phaedranthus buccinatorius*. Seems to be a very strong grower." (J. A. Gooch.)

Doxantha unguis-cati (Cat's Claw Trumpet), Bignoniaceae, W. Indies to Argentina.

A vine that loves to climb high and spread its leaves over wide spaces on roofs or sides of houses. It blooms in early spring, generally for about a month in April or May, though a late season may cause it to linger into June. Its flowers are a brilliant yellow, three inches long by two and a half inches broad, with darker lines running down to the throat.

Its leaves are opposite, each with two leaflets, the third leaflet having been turned into a tendril with a claw, by means of which the plant is able to climb houses of stone, brick, cement or wood.

This is one of the vines that may be used as a delicate tracery on a gray cement house. It must be pruned yearly to keep it dainty as it should not be allowed to cover the architecture completely.

A plant in Berkeley is on a north wall and climbs by its claws to the top of the house. It first rambled over the balcony and onto the eaves and sent out feathery sprays sidewise before it hurdled to the roof.

It can also be grown with sprays falling down the side of a building. On the Capitol grounds at Sacramento the main stem had side shoots about a foot or more long upon which the leaves were grown. These side shoots hang down so thickly that they form a perfect screen and the weight of the flowers keeps them hanging gracefully.

It is hardy and stands frost close to zero or even below it, and is the only so-called bignonia that will grow in the Imperial Valley. Therefore it is one evergreen vine that can be grown in the Sacramento and San Joaquin Valleys as it was doing well at Fresno where an old vine had stems nearly a foot through and in Bakersfield at Mrs. Holtby's it grew thirty feet in height on a south wall.

It has few enemies or none and its

one fault seems to be that it is leggy below, sometimes for as much as twenty feet. In an interview with Miss K. O. Sessions she states how this legginess may be remedied. "Pruning. It is wise to cut back the first year's growth to within two or three feet of the ground, or to a point where the plant begins to cling, but do this in March or April. When these new branches become three to five feet long, if you wish the plant to be spreading to cover a large area, then nip out the tip end of the new growth. This will make the branch develop two strong shoots and will induce lateral growth. This nipping of the new shoots can be continued until you have the desired space covered. It is only by frequent pruning of the branchlets that will not cling and nipping off of the growing ends that you can keep these vines growing laterally at the base. . . " If perchance in spite of all care it becomes leggy, *Ficus pumila minima* is usually planted with it to hide this defect.

As to its general landscape uses other than on walls of houses, and on wide spreading roofs, it climbs high on trunks of palms, on stone pillars, on pergolas associated with *Clytostoma purpureum,* whose leaves are strikingly similar but whose flowers are of a different color.

Propagation is by seeds or cuttings.

It has a large tuberous root from which shoots sprout out and make a new vine if it is cut down to the ground by frost or must be cut to renew after it becomes too large to manage. It is also said to be drought tolerant; probably due to its tuberous roots. This is the vine that the editor of the *Santa Barbara Gardener* says should be planted with *Clytostoma callistegioides* as he saw them together on a backyard fence converted into a breath-taking bower of bloom by a complete cover of the yellow and lavender flowering trumpet vines, all growing and blooming together.

"It has been tried in Stockton but died in the big freeze three years ago." (Nova Beecher.)

"A most rampant grower. One of the best evergreen vines for desert sections and Arizona. Blooms in summer and will cling to hot stucco when heat seems unbearable. Its main objection is its uncontrollable growth and the long seed pods that persist and become unsightly. Will stand close to zero weather as it becomes deciduous when exposed to great cold. Will cling to anything but metal. Likes good drainage but is not very particular." (J. A. Gooch.)

Hardenbergia Comptoniana (Compton's Hardenbergia), Leguminosae, Australia.

A genus confined to Australia. Named after Countess Hardenberg.

This is a medium-sized vine with an average height of ten feet in southern California but is known to have grown twenty feet in six months in Santa Barbara. It has violet blue pea-shaped flowers which are borne in profusion in early spring, from January to April, May or June as reported from different localities; also depending on an early or late season. Its evergreen foliage is a pleasing shade of green and its three to five leaflets give a rather Japanese effect, quite attractive even when out of bloom. On account of its medium growth it is well adapted to small-sized gardens. It is used in various ways largely as wall covers, porch screens, on trellis, fence or on low trees where it reached fourteen feet

in height with a spread of ten feet. It was planted next to a *Pandorea jasminoides* and combined well with it as its foliage had the same texture. It is delightful over arched gateways whether in bloom or not.

As to culture it seems to do best in shade in southern California but does equally well in sun or shade in the San Francisco region. At one time it was supposed to be too tender for middle California, but it has now been proved to be quite hardy though some plants were killed in the 1932-33 freeze. However, a chance seedling would come up to replace those killed and one was known to bloom from seed in a little more than a year. At first it did not bear seeds in Santa Barbara and nurserymen grew it from layers but afterwards found that it would grow from cuttings made in July.

In San Diego it needs heavy pruning after its winter flowering season.

It climbs by twisting its stems about a support on a wire fence at the University of California Stadium where it was in a steady wind. It is especially good for low walls as it does not grow too tall. Its color is exceptionally good with a white wall. In Santa Barbara and towns further south it is a great favorite on account of its color and its spring bloom. In Berkeley in July it was in seed but in Santa Barbara it was in August, a month later.

Another good combination seen was *Pittosporum undulatum, Daphne ororata marginata* and *Hardenbergia Comptoniana.* This would be especially fine about a house or in a court on account of the fragrance.

Here again is a vine that varies largely in the time of bloom in the various sections of California. In Berkeley it begins to bloom in January and bloomed through April. In Santa Barbara it also bloomed from January to April, though flowers were seen there in August in a pot plant on a garden wall. In Golden Gate Park the photograph was made from a specimen taken in March, when it was in full bloom. In San Diego it blooms from January to June (K. O. Sessions) and in Pasadena from January to May (Hoak).

It is propagated either from seeds or cuttings, the former to be soaked in hot water as is usual with most leguminous seeds.

Miss K. O. Sessions recommends it for the north of a house in San Diego.

"A good winter bloomer. Especially adapted to lattice fences in fairly dense shade or half shade. Grows ten to twelve feet and combines well with *Gelseminum sempervirens,* which blooms at about the same time. Will stand about 24 degrees." (J. A. Gooch.)

"Does splendidly in our summer climate in a sunny location but severe frosts have caused too many losses to warrant playing with it very much. The blossoms of the purple variety are lovely with the double blooming *Kerria japonica.* A moderate grower." (Nova Beecher.)

"Blooms in March at the beach and in May in Pasadena; flowers for two months. About 12 feet long, never very large; likes sun or half sun. Gets the so-called purple scale.' (Lucia Fox Edwards.)

Hedera helix var. *chrysocarpa* (Orange-berried English Ivy), Araliaceae.

English Ivy itself is very popular in England and is used there for many purposes, all of which are found in California for the type and its

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Hardenbergia Comptoniana

various forms. Perhaps in the hot interior valleys it is used more sparingly as it seems to burn in the sun rather than to suffer from the cold in winter. If it is on the north side of the house or even under trees where it can get no air it is bothered by scale in Sacramento and by red spider in Stockton. In Santa Barbara English Ivy is used as an edging to bougainvillea which is used as a ground cover instead of grass. The contrast between the two plants is very marked.

It may interest you to know that English Ivy was used before the year 79 A.D in the gardens of Pompeii and are described and illustrated in "The Lost Gardens of Pompeii" by Maria Terese Parpagliolo. She says that English Ivy was there used as edgings or raised as small pillars or hung in festoons from column to column.

Hedera helix chrysocarpa has foliage of less dark a hue than the type with light lines somewhat emphasizing the veins, and beautiful orange berries which ripen in winter and at other seasons.

In Berkeley it is used very successfully as a screen to an entrance porch; also as a covering to a low wall at the Unitarian Church, where it has been on display these many years, the long-pointed apex to the leaf giving it a character of its own.

It seems to be quite hardy as it is growing on a small house in Palo Alto sheltered by a large Coast Live Oak tree. In Santa Barbara it is used as a pot plant set on iron containers in the small passage ways in El Paseo and in business shops about town. It is less common than the type, stands shade and crowded conditions and is quite artistic in appearance. The berries are numerous enough and bright enough to give quite a color note to the whole mass.

It may be a little faster growing than the type but does not appear to cling so tenaciously by its rootlets. It is handsome, interesting and should become more popular than it is.

You will notice that the leaves near the berries are of a different shape from those on the main stems, and is always the case with the English Ivy itself.

"Does well in Pasadena but have not seen its berries." (Lucia Fox Edwards.)

Hoya carnosa (Wax Plant), Asclepidaceae, China; Australia.

Index Kewensis lists over 110 species of Hoya, mostly from tropical and subtropical Australia and from the warm Malayan region. Twenty-one species are known to be grown in England. With this in mind we should not expect to grow any of them outside in California. It therefore comes as a surprise to find that such a tropical species as *Hoya carnosa* not only grows outside in southern California but is also quite hardy in northern California at least as far north as the Bay Region. It was not killed by the severe 1932-33 freeze and even not much hurt, so we would call it rather hardy, though it must be grown under glass in the San Joaquin and Sacramento Valleys. However, one of the finest specimens seen was in an enclosed porch at Los Altos, where it covered the entire sides and the ceiling with its hundreds of flowers, a most charming sight. The honey in them was so abundant that it fell down on the clothing of the guests and the owner was obliged very reluctantly to tear it all down and replace it by a less melifluous plant.

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Hedera helix chrysocarpa

The leaves are opposite, thick and leathery, about three to four inches long and one and one-half inches wide. They remain on the vine so long that they are apt to be spotted, especially if they are sprayed, as they frequently must be to keep them clean. They occur about every six inches apart on the old wood, but much nearer together on the new wood. It climbs by rootlets or, if about a pipe, it must be tied as such material does not allow the roots to cling. It grows tall and narrow, hardly making any more width than eight to ten inches. Hence it would be adored by the French who love to make garlands to twine about their garden walls or on their summer houses.

The flowers are borne in umbels which are pendulous on short peduncles or spurs. It is important not to cut these spurs which remain after the flowers pass, for each spur will then bear another flower. The spur is about a quarter of an inch in diameter, filled with a living green material, while the outside is rough, due to the remains of the bractlets which are about each individual flower. Each flower is five-lobed while the crown segments are very convex and also are in the shape of a five-lobed star. These are a dull white with a pinkish tinge, and velvety in texture, like glorified milkweeds.

Hoya carnosa is slow growing and needs partial shade, at least out of doors, but must be in a sheltered place as the sun turns the leaves yellow. It may be propagated from seed, also from cuttings or even from aerial roots cut off and potted.

"It is fed a complete fertilizer, or calcium nitrate, which dissolves readily in water—a teaspoonful to a gallon of water." (Budd.)

In the Bay region it has been seen growing on a west wall in the full sun with reflected heat and blooms freely. However, its leaves are smaller than usual and are a yellowish green. In Santa Barbara it was seen on a south wall but in dense shade, about ten feet tall and full of bloom. Also in Montecito it was on the north side of a house, climbing by rootlets and having good green foliage. It was associated with maiden-hair ferns and received the same treatment. It is used on walls, on shady porches, in conservatories, and is especially valuable in patios where a small-sized vine is desired.

Faults? Yes, it is easily infested with mealy bugs, which requires frequent spraying with water, or hand picking.

The illustration happens to have been made from a green house plant at the University of California in Berkeley, where it grew twenty-five feet tall, but one equally as fine might have been gotten from a plant growing out of doors here in Berkeley. As a cut flower it lasts two days. It seems to bloom at various times and flowers have been seen during March, June, July, August, September and October.

"Blooms July-August; very slow; ten feet or so high; likes shade. Give it protection. Has white scale and mealy bug." (Mr. Tuttle.)

Lantana camara (Common Lantana), Verbenaceae, Tropical America.

Some years ago a group of men who were studying art and visited southern California decided that it was a subtropical country like Egypt where the overhead sun cast few shadows and consequently plants of brilliant color were needed to set off these houses. The result was that *Lantana camara, Streptosolen Jamesonii,*

bougainvilleas, etc., began to dominate in the southern gardens. In the spring time they were tolerated but when it came to the hot summers people began to long for cool greens, blues and the less gaudy flowers that would harmonize with their annuals and perennials in the garden. This led to a revolt against too much brilliant color, especially against *Lantana camara* and the bougainvilleas which were everblooming, always on hand, spoiled the color scheme of the tuly artistic, and antagonized the mass of the public who had to look at screaming combinations by the well-meaning but careless gardeners who planted what they liked regardless of the effect.

Lantana, then, is a plant that must be used with care. It will grow in almost every section of California even in regions of severe frosts, for if frozen to the ground it does not matter as it usually comes up from the roots and there is no problem of pruning or spraying for mealy bugs.

When it comes to growing it in regions where it is not killed to the ground there is the question of pruning. In Berkeley one of the best vines in town was pruned severely every year, flowers, leaves and small branchlets were cut off and nothing was left but the bare larger stems. This was done in January or near that time, depending upon the weather. The leaves and flowers did not appear until April or May, but were larger and brighter than in December. They then continued to bloom brightly until their next annual pruning. This vine was thirteen feet tall, thirteen feet wide and had a stem near the ground of five inches in diameter. The secret with lantanas is to keep them growing on new wood, not to give them too much water, nor too rich a soil or they will not flower well. They also like full sun and heat.

Another vine was leaning against a shingled house, whose dark color made a good background for the lantana flowers and brought out the beauty of their coloring. The flowers begin as a bright yellow and then turn red so that each cluster has two shades of color on it. The plant grows from three to four feet a year, most of which comes off again with the pruning, so that the height of thirteen feet in twenty years represents mostly the height of the hardened bark on the old wood. This lantana was not killed by the 1932-33 freeze though some of the young branchlets had the bark split. It took about a year to get rid of all the injured limbs as the owners were advised not to trim them off but to wait to see if they would recover. The branchlets less than three years old were killed while those over three years old with hardened bark survived the cold, which helps to confirm the report that vines with woody bark, that can be covered in winter or can be kept alive for three successive years until their bark hardens will generally live thereafter without protection.

Another *Lantana camara* was against a cement house, also on the south side but at a lower elevation than the larger one described above. It also was twenty years old, twelve feet tall and fifteen feet wide. Instead of being pruned every year it is pruned every other year, about Christmas time, the leaves and flowers then appearing in about two or three months. There is a brick wall about the terrace and those red and yellow flowers call for restraint in the planting. Two small conifers at the steps proclaim a change of level; begonias and plants

in other colors not in conflict with the lantana are grown in the neat little garden about an informal pool with water plants.

In southern California the uses of *Lantana camara* are various from ground covers, tennis courts, rockeries, urns, to color edges in shrubbery and bedding plants instead of perennials in extremely hot climates.

As cut flowers they last but two days and their fragrance is not agreeable to everyone.

They are propagated from cuttings.

They are combined with streptosolen as an embankment plant in San Diego, one blooming best in summer and the other in winter.

There are various hybrids grown in California, many of them quite dwarf and largely used for hedges or foundation planting. We do not as yet grow the number of kinds used in England, where twelve varieties of *Lantana camara* alone are listed. W. Robinson, in the English Flower, states that, "the odor of these plants is unpleasant and they are not worthy of much use."

"Grown here extensively as a bank cover. Blooms all summer but it cut back in winter by frost at about 27 degrees. Blooms all the year it is not frozen. Used as a vine it will grow about twelve feet. Attacked by mealy bugs." (J. A. Gooch.)

"Six feet tall and six feet spread. Likes almost any soil not too rich. All the shrub varieties die back almost to the ground each winter here. At any rate they need severe pruning before growth starts in the spring. The warmest spots against wall or house are favorite locations." (Nova Beecher.)

Lardizabala biternata, Lardizabalaceae, Chile.

This is a vine from Chile with leaves twice compounded in threes, the staminate flowers in drooping racemes; pistillate flowers solitary and the fruit an edible berry, while "the shoots, if passed through a fire and mascerated in water form cords of great strength." (LaMout & Decaisne.)

The Lardizabalaceae resemble the Berberidaceae and were formerly classed with that family. It has now been transferred to Lardizabalaceae, with eight genera in all by the latest classification. They are as follows:—those cultivated in California being starred.

**Akebia,* fruit eaten by Japanese.

Boquita from Chile. Fruit eaten.

Decaisnea "fruit sweet and fleshy and every grateful."

**Holboellia* of which *H. latifolia* has been cultivated in California.

**Lardizabala biternata,* cultivated in California. Fibre cords very strong.

Sargentodoxa cuneata E. & C. China. Named after Prof. C. S. Sargent of Arnold Arboretum. Monotypic.

Sinofranchetia chinensis, sino from China and *franchet* after the French Botanist Franchet who named many Chinese plants. Monotypic.

**Stauntonia hexaphylla* named after Sir G. L. Staunton, Physician, Japan.

A specimen of *Lardizabala biternata* was collected under lath at Golden Gate Park Nursery on August 20, 1934. It was twelve feet tall, six feet wide but had been pruned many times to keep it within bounds. The buds were in long racemes and just beginning to bloom. The flowers are curious and interesting, about an inch in diameter, and much the color of those of akebia. They consist of six sepals,

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Lardizabala biternata

three of which are smaller than the outer ones, six petals or petaloid nectaries.

The flowers of the staminate flowers are dark brown, almost black and when in bloom the six almost white pistils are in startling contrast all fastened onto the end of the united filaments.

The leaves are supposed to be twice ternate but it does not always follow. They are generally simply ternate on the flowering branchlets, all young and not fully formed. On the older branches you can never be sure whether the leaf will be strictly biternate or whether one or two of the supposed trio will have but one or two leaflets. These leathery leaves are hardy as they came through the 1932-33 freeze unharmed.

The plant has a look of permanence and the large glossy leaves seem fitted for hard use. It could be substituted for *Hedera helix* when you do not wish to use a gloomy dark hue as the lardizabala leaves are lighter in color, alternate and two or three inches apart with sprays over a foot wide. It is really less formal in appearance than the English Ivy and would not cling so closely to the trunk of a tree but since it climbs by twisting its stems round and round an object it will have to be assisted in the beginning.

This vine will cover a rough pergola post and keep its shape if neatly tied to it. Otherwise it is stiff and heavy and on the ground or anywhere. Its new leaves are bronze on top of the lath house in the sun, are soft and soon a much lighter green than the old dark and coarse leaves.

It seems to be very rare in California but has certain advantages over other vines, as it is hardy, will stand abuse, has interesting leathery, permanent looking leaves and could really be classed with the foliage vines since its flowers last so short a time. It could be used over a pergola with the flowers hanging from above but they are very attractive to ants and aphids which must be kept off or the flowers are ruined and worse than useless.

It is propagated by cuttings.

Maurandia barclayana (Barclay's Maurandia), Scrophulariaceae, Mexico.

This is one of six species grown in Mexico which may eventually be introduced, but so far only two or three have been seen in California. It is a dainty little evergreen, ten to twelve feet high, which climbs by twisting its flower stalks about a support. It blooms from April first to December first in the southern part of the state and all summer and into late fall in the interior valleys. The Figwort Family or Scrophulariaceae is divided into many different tribes, but Maurandia belongs to the Snapdragon section although, unlike that species, it does not have a closed throat.

The flowers are rather large, over an inch wide with pedicels several inches long that bring the flowers well in sight beyond the leaves. Their colors vary greatly from a fairly good blue to various shades of purple, the purple predominating more and more when the plants are grown from seeds instead of from cuttings. As the seeds germinate and bear flowers within three months that is the most common method of propagation.

The leaves are succulent, a pleasing green, triangular in outline but hastate at the base. It is not a dense vine but covers lightly and trails as well as climbs. It can, therefore, be used for hanging baskets, rock gardens and walls. It is especially pleasing about

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Maurandia Barclayana

low walls as it covers quickly, is not too pronounced in color and even the flowers are not too prominent as blue recedes into the distance.

As the leaves are quite succulent the plant should be sheltered from severe winds and given an ample water supply.

It may be grown either from cuttings or from seeds covered lightly and sown early in the spring. Seeds germinate in about two weeks.

"In the interior valleys it is important to get the seed into the ground early so they will bloom the first season and become hardy by fall. It will stand mild winters but even if it is killed every four years it will pay to grow it as it is grown so easily and cheaply." (Vortriede.)

"In southern California it is used as a hanging basket or window box." (J. A. Gooch.)

It makes a good screen between two sections of a garden when planted on a chicken wire fence; also good on a tennis court as it lies flat on its support and never catches and hides the balls. It will cover the sides of a low barn and hide its ugliness. It is also good on the side of a house which it covers daintily but not too densely.

"Not good in Pasadena but thrives at the beaches" (Lucia Fox Edwards.)

Oxera pulchella Royal Climber, Verbenaceae, New Caledonia.

This is a rare and distinctive-looking vine from New Caledonia east of Australia, and its curious name is pronounced Ox ē′ ra.

The flowers are in immense bunches, as many as forty together, in the axils of the leaves on the ends of the branchlets which hold out the flowers in full sight. They are ivory-white, about two inches long in one-sided trumpet-shaped corollas with protruding stamens and styles. At first the calyx is greenish-white, a color that leads the eye from the pure white petals to the dark green foliage. As the faded flowers drop from the calyces the vine as a whole keeps its neat appearance.

The leaves are opposite, two to five inches long, a leathery dark green above and a little lighter in color below. The old leaves are entire but many of the young ones are widely scalloped on the edges, as plainly seen on the illustration.

The stems have a corky appearance that is quite pleasing — white with brown spots. The vine must be held to the wall by means of copper wires with screw eyes, and must be tied in place. It may be planted in an angle of a white house where it seldom gets the sun. Its associates were also rare and choice such as Azores Jasmine (*Jasminum azoricum*), Star Jasmine (*Trachelospermum jasminoides*), Madagascar Jasmine (*Stephanotis floribunda*), and Herald's Trumpet (*Beaumontia grandiflora*). While its shrubs and tree companions were the white hybrid camellia, Chinese Holly (*Ilex cornuta*) and rhododendrons.

Oxera pulchella seems to have either a long blooming period or it blooms several times a year as it was seen in bloom in August and October of 1934 and in February, July and August in 1935.

So far it does not have many pests but the Fuller's Rose Beetle is very fond of it and quickly strips its leaves where it is abundant.

Up to the present time this climber is extremely rare in the state, the only ones we know being grown in Santa Barbara, at Hugh Evans' in Santa Monica, and at the late Senator Bard's at Hueneme where, for some

William A. Matthews

Oxera pulchella

unknown cause, it did not bloom for twenty years though it bloomed in about two years at Santa Barbara.

"Dark green, handsome evergreen foliage, large clusters of pure white, tubular flowers in drooping panicles. It does particularly well either in sun or shade and should be far more extensively planted than it is." (Hugh Evans, Santa Monica.)

"Too tender for Pasadena region." (A. Jannoch.)

Parthenocissus Henryana (formerly *Vitis Henryana*), Silver-vein Creeper, Vitaceae, China.

This is a beautiful and rare variegated climber that meets with general appreciation on account of its rich almost velvety color with the veins etched on white lines above and a purplish tinge to the undersides of the leaves. The somber green leaves touched with red give us but a hint of the glory yet to come when Jack Frost begins to paint the leaves in brilliant autumn colors. Weeks afterward it falls leaf by leaf leaving the slender stems to etch their outlines against the wall.

It is rather fast growing as it grew forty feet in three years at a nursery in Fresno. It climbs by tendrils with adhesive disks, though these disks cannot always function when some form of lime has been used on the house or wall on which the Silver-vein Creeper is growing.

It is said that in order to retain its rich color it must be grown in shade or partial shade otherwise it much resembles Virginia Creeper. But there are specimens grown in the full sun on the west side of a house which undoubtedly retain its whitish lines. One such specimen was on a terrace with an iron grill about it. On this grill is Henry's Parthenocissus, used as a low screen and gives the family great satisfaction, especially as seen as a tracery against the afternoon sun, its reddish leaves giving a particularly pleasing glow throughout the room. Possibly the pergola to the south of it shades it from the hottest part of the day, however, and the vine may get the sun only in the cooler part of the hot afternoon.

Another choice and handsome specimen was grown on the north side of a house which had been either painted white or whitewashed. It was twelve feet tall and twenty feet wide. It has alternate leaves, a tendril with adhesive disks taking the place on the opposite side. The leaves are large and healthy looking and almost in bloom July 11, 1935, and by September 5th was not only in bloom but carried a quantity of seed in its black berries. No other climber was planted with it on that side of the house but it had fitting companions combined with *Fuchsia fulgens*, or even better, with pink flowered fibrous-rooted begonias. Its leaves are deciduous for a short time in the winter.

It was formerly called Vitis Henryana but is now separated from Vitis by the tendrils with disk tips, the petals falling separately, and the lack of hypogenous disk under the flower.

It should be planted more often in California than it is but as it was only introduced into England in 1900, and it took some time to reach us it takes some time for us to learn its best cultural requirements. It is not supposed to be very hardy.

Parthenocissus tricuspidata, Japanese Ivy; Boston Ivy, Vitaceae, Japan; China.

This is the well known deciduous, rapid growing vine which climbs to great heights by means of tendrils

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Parthenocissus Henryana

with adhesive tips and is very satisfactory throughout the state. Therefore little more need be said about it at this time excepting that on a house it forms a clean handsome covering that intensifies the architectural lines of a house without concealing ugly lines. If a house seems to soar too high into the air it will look all the taller if planted to Boston Ivy, a thick covering of the walls only emphasizing the height the more. It would be better to use some less formal looking climber that will conceal and break the vertical lines, lessen the apparent height and not repeat the existing wall surfaces in green.

It begins to color in the early fall and sometimes holds its brilliant colors until December 25th, though a wet winter will scatter its leaves before that time and there remains but a delicate tracery on the walls. It may be recognized by the three-lobed leaves.

Parthenocissus tricuspidata var. *lowii*. There is a form of this called Low's Japanese Ivy, also Low's Boston Ivy, which also colors but the leaves are less crowded and therefore it does not show so vivid a color. It is said to have been named after Mr. Low an Englishman who found it as a seedling in a bed of *P. tricuspidata*. It was figured in Gardener's Chronicle in 1907, not long after *P. Henryana* had been brought out. It is therefore a rather newcomer to this state and as yet is rather rare. A photograph was taken from a specimen growing on a trunk of a Washington palm at the Capital Grounds at Sacramento where it grew vertically up the trunk for twelve feet and had a width of three feet. At the base of the tree the stem was three-fourths of an inch in diameter and then quickly ran along the side branches where the remaining stems were not as thick as a lead pencil.

Low's Japanese Ivy will cling to walls where it is more delicate and not so dense as Boston Ivy. It is also deciduous but its delicate traceries are like dainty etchings, unlike those of the type they run up a wall vertically instead of horizontally and make an altogether different pattern.

It may be used on tree trunks, on walls and on low places where Boston Ivy would be altogether too spreading. Its leaves color up well in autumn and look like butterflies or puckered leaves.

"Likes the sun; does well, no special cultivation." (Lucia Fox Edwards.)

Periploca graeca (Silk Vine), Asclepiadaceae, S. Europe; West Asia.

This is from the Greek word, periploke, meaning to interwine, a fact you would soon realize on gazing at its tortuous twisting at the Lodge in Golden Gate Park where it was in bloom in May on the west side of the house and had reached the second story window, about fifteen feet. It had twisted about a honeysuckle vine and had managed to come out on top to the light and air where the wind rather roughly played with its flowers. These flowers are in axillary or terminal cymes in which the central bud blooms first and then the laterals; this prolongs the blooming season, but in some climates prevents a mass of flowers blooming at one time. Besides that, the flowers are rather inconspicuous, light green beneath and on the tips above, which were the last to burst when the buds opened. The upper surface also has splashes of brown or purple. The slender star-shaped petals are about an inch in diameter and at the center of each star is a five-lobed crown, with five long-

William A. Matthews

Periploca graeca

anthered purple stamens, which are rather interesting.

Its leaves are round at the base, quite long-pointed at the apex, three to four inches long, and with prominent parallel veins which do not reach the edges but merge into a marginal vein. They are a light green and shining above and emit a milky juice when bruised, which according to Mrs. Loudon "is said to be fatal to flies, and that a number of dead flies may be swept up every day in bowers covered by it." No such report has reached us in California but if it kills flies it certainly ought to be planted about every barn in the San Joaquin Valley.

The pods are described by Bean as follows: "Seed-pods in pairs, five inches long, one-half inch wide tapering to a point; full of seeds, each with a remarkable tuft of silky hairs at the end one and one-fourth inches long."

It seems to like any soil, loves the sun, and is very fast growing, a fact that appeals to eastern gardeners and to some in the San Joaquin Valley, but in the Bay Region it is deciduous for too long a period and leaves our garden features bare when we might use other and handsomer climbers which like our coast conditions better.

It is propagated by seeds or cuttings though not so good for the latter purpose on account of the milky juice which is said to be hard to propagate.

On account of its rapid growth it will soon cover a wall or a summer house. It was also charmingly used in Burlingame festooned on chains along either side of a driveway to prevent the lawn from rough usage.

Bean in his "Trees and Shrubs Hardy in the British Isles" states that "the milk from the stems is poisonous and in Europe it is believed to be injurious to health to inhale the heavy odors of the flowers."

Phaedranthus buccinatorius (Evergreen Trumpet-creeper), Bignoniaceae, Mexico.

This climbs by means of its flat disk-like tendrils and is especially desirable where you wish a tall, wide-spreading vine that does not have to be supported. It is very fast growing as it covered a small house at Santa Barbara completely in one year. The second year it was fifty feet tall and forty-five feet wide—an almost unbelievable size for so short a time.

It sends out red trumpet flowers in clusters of from four to eight throughout the season, which means all the year at San Diego and sections of Santa Barbara but only until frost in the bay region. It keeps its evergreen leaves in perfect condition all the year in both regions and for covering large spaces, for bright color, neatness, vigor and downright persistence it stands high, but it enters walls through any small crack or crevice, so such tendencies must be watched for and strictly curbed.

There seem to be two forms of this species, one with widely-spaced smaller leaves, that grows readily from cuttings, even from root cuttings, and a larger-leaved, larger-flowered form which is a much better looking plant in every way but more expensive since it is difficult to root from cuttings and must be layered. It may cost three times as much as the poorer type but it is better to buy the larger-leaved one since it is well worth the difference in price and far more satisfactory in the long run.

It will root from cuttings under double glass in the Bay region but one gardener in Santa Barbara made

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Phaedranthus buccinatorius

cuttings of it in the open ground where it was to remain.

As a climber for screens about a tennis court it cannot be surpassed in beauty and satisfaction. On a sunken court at the foot of a hill, surrounded on all sides by this climber, it was in bloom from early spring until cut off by cold weather in November. The flowers were within range for close inspection so that their gorgeous color and shape could be easily seen and appreciated. They gave unity to the tennis court as no other climber was used with it, and it related the court to the surrounding garden. It is shade tolerant as it is often seen with its roots on the north side of a house and the upper part of the plant bending to right or left as it seeks the sun. It climbs cement, stone or brick houses by a multitude of disks which are worthy of a closer inspection. If you will look at the illustration, you will see that the leaflets are opposite but in pairs and on the upper left hand corner you will see that instead of a third leaflet, as is so common in this family, nature has grown a tendril. This tendril after it reaches a solid surface, such as wood, brick or stone, begins to cling and form suckers or disks, easily discerned on the insertion at the right. These disks were from one-half to one-fourth inch in diameter and so strongly fastened to the wooden building that they had to be pried off with a pocket knife — amazing strength and adaptability.

If you have a dead tree or tall shrub try draping it with this Evergreen Trumpet Vine. It grows quickly and soon covers the whole plant with flowing lines of green foliage every day in the year besides giving a wealth of red flowers from spring until frost.

At Santa Barbara the Evergreen Trumpet Vine was grown about the outside stone wall of a home where one vine covered a horizontal distance of sixty to seventy feet. It seemed to be the small-leaved type and showed the great adaptability of the plant. It is also, apparently, one of the climbers that when it has outgrown its position, may be renewed by cutting it down to the ground and letting it sprout again from the roots. An even worse fate overtook it at the University of California grounds, for it was not only cut down but was buried with a fresh covering of earth and left to die. In spite of such treatment, with no water and covered deeply with soil, it has struggled to the air and sent out long stringy branches which were ruthlessly snipped off by some careless boys. Up it came again the second year and is now struggling with a cold winter.

The Evergreen Trumpet can also be used to make patterns on walls as was seen in Santa Barbara where it was clipped to a slender line by pruning and mounted from the base of the house to the tiles on the roof. In this vicinity it is also clipped to form wreaths about windows, a practice which seems to be getting fashionable in southern California.

Since this species is tender it would be well in the hot interior valleys to substitute for it the deciduous Trumpet Creeper (*Campsis radicans*) whenever a brilliant color is desired.

"A strong grower that is used a great deal in all parts of southern California. It is badly frosted at 27 degrees and large vines are cut back severely at 24 degrees. It comes back strong after freezing and will often bloom the same year. Grows twenty-five to thirty feet. Blooms in summer and is at its best when climbing on wood. Is attacked by mealy

bug and black scale. Likes full sun for flowering although it will do well with base in shade. Prune severely during winter or just following bloom. Do not prune during hot weather. Likes good drainage but does not seem to be too particular about nature of soil if watering is studied." (J. A. Gooch.)

"It blooms here from May - December, covering fence or wall to seventy-five or one hundred feet. It likes a south and west exposure in full sun. Very hardy after it is established. It goes down to 28 degrees in Oakland, and the tips of the runners may kill back. A splendid evergreen and gives a tropical effect of flowers. Will grow in garden soil. Prune for control only." (George B. Furniss.)

"Begins to bloom in March or April and blooms for three months. Likes sun and must have it for at least two hours a day to flower. No bad pests." (A. Jannoch.)

Plumbago capensis (Cape Plumbago), Plumbaginaceae, South Africa.

A very attractive plant with light-blue phlox-like flowers and sticky glandular hairs on the calyx. It is a weak scandent shrub which is half-climbing but must have support or it will sprawl loosely over the ground. However, it will climb easily if given a chance, spreading itself over bushes and small trees and adapting itself to various degrees of soil conditions, as it is sometimes drought tolerant and then again it is seen where it receives quite an amount of water.

It flowers continually in some parts of southern California but in regions of severe frost it is cut to the ground in winter, though it usually comes up again the following spring and blooms all summer and fall.

In regions where it is not ever-blooming it should be pruned back heavily after the flowering season is over, but in milder regions it should be cut back every two or three years in winter as it suckers and is apt to spread.

It grows and blooms on the new wood in spikes which drop both calyx and corolla from the axil of a bract when they are through flowering but the tips of the spikes have the buds ready to unfold to keep up the blue color scheme. It is easily propagated from cuttings, taken with a heel, and placed in a cold frame or with bottom heat. Plants that are rooted in the Fall will bloom the next summer and will grow on steadily, rooting from suckers and tending to spread farther than it does in height.

It is a most charming plant for various purposes, on houses, at pergola posts, on fences or trimmed down four and a half feet tall and four feet to make a shrub. It was used as a hedge in Santa Barbara, which was wide. This was planted on a slope where it was difficult to maintain good shrubbery and the hedge scheme was happily thought out.

Its leaves are in bunches at nodes, one or two inches apart, and are of grayish color which helps to set off the lavender-blue of the flowers.

These flowers are well worth a moment's notice as they are on rather long tubes one and a half inches long enclosed by green calyces about a third as long, each flower set in the axil of a green bract which remains after the flower falls and add to the foliage value until the bracts turn brown and unsightly.

It is said to stand ocean winds in the south land with frost to 25 degrees when it is cut to the ground and comes up fresh and new the next spring. It does not stand much rain

in the Bay region but looks bedraggled until the hot sun appears to bring out the new buds and drop the old flowers.

Its form is graceful as the heavy flowers cause the branches to droop.

There is a white flowered form which is quite handsome and very useful in the coming fashion that calls for all white flowers in a garden to give a feeling of mystery and to give a unity to a garden as various colored flowers do not seem to do. However, the blue form is still the favorite in Santa Barbara as there is more of it sold at present than of the white one.

"Blooms most of the year if not frosted. Nipped at 25 degrees and badly frosted at 20 degrees. Grows twelve to fifteen feet high but is best as a shrubby vine for bank or hillside cover. Also good on fences. Likes full sun and prefers plenty of water but will survive drought fairly well. Prefers good drainage." (J. A. Gooch.)

"Blooms freely from July to October and some flowers all the year around. A shrub or vine up to fifteen feet. Best in sun but will stand much shade though it flowers more sparingly in shade. Exceedingly hardy and drought tolerant." (Lucia Fox Edwards.)

Polygonum Aubertii (Silver Lace Vine; China Fleece Vine), Polygonaceae, West China; Tibet.

Use this vine in a situation that calls for a mass of foaming billowy flowers to give grace and airiness to a feature, such as an arbor, porch or pergola, or trellis, small cottages or to smother an outbuilding.

It seems to have a wide distribution in the state as it was seen from Marin County to San Diego though not abundant in any one section. Since it is deciduous and from China and Tibet it should be hardy throughout the state and even if frozen to the ground it usually comes up again from the roots. In fact some people advocate cutting it back every year soon after it has finished flowering, or at least before its leaves become shabby.

At San Diego it was in bloom by June and was twenty-four feet tall although it had been cut back the previous winter. In Marin County it was cut down to the ground during the 1932-33 freeze but was not killed and came up again in the spring. At Santa Barbara it was in full bloom in August and charming at the Margaret Baylor Inn as it climbed the wall to peek at the guests at luncheon under the gay umbrellas in the court. Mr. E. O. Orpet says it is the best vine on his place as it will bloom from April until October, and if cut back after flowering it will bloom again in six weeks. It was still blooming gayly on the 20th of October when I saw it. In Berkeley it is growing over an elderberry tree where it climbs to the top to display its lacy white flowers like a cloud. The foliage of the Silver Lace Vine is so dense that it may smother a tree that cannot endure shade, or is only partially shade tolerant.

For a division line between properties, the Silver Lace Vine is most charming. In one garden it had mounted over a geranium hedge where it bloomed during the summer and autumn and was then cut down, and the hedge emerged in full bloom and gay as ever. If it will combine with geraniums, why not try some other combinations? In any case, this is a valuable climber for small home grounds if it is judiciously pruned to keep its place and should not be thrown out of the garden picture on account of its winter appearance.

Another combination seen was the Silver Lace Vine and Trailing Lan-

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Polygonum Aubertii

tana (*Lantana sellowiana*), the latter when seen by itself is rather harsh in color, but when toned down by the filmy flowers of the Silver Lace Vine, it made a charming combination.

"It blooms in Oakland from April to October—six or seven months. It makes a pergola or wall covering with an east, south or west exposure. Is free from pests, deciduous, but making rapid growth. Grows in any soil. I give it no pruning." (George B. Furniss.)

"It is deciduous in Ontario. Does well in most parts of the southland. A good hardy vine and profuse bloomer in early summer. Prefers good loam and plenty of water for best development." (J. A. Gooch.)

"Fast growing; likes sun; hardy; gets black scale." (Lucia Fox Edwards.)

Pyrostegia ignea (formerly Bignonia venusta) (Flame Trumpet), Bignoniaceae, Brazil.

If you want to have one of the surprises of your life go to southern California about Christmas time and gaze upon an orange-colored vine that will fill a bleak winter day with glory. It drapes itself along a balustrade or walls of light colored stone or over wooden fences and covers every inch —board, posts, arch over gateway, and even goes up a nearby telephone pole —yes, literally covers every inch with its many-flowered clusters of flowers of a decided orange color. In grace and color and habit it appeals to us as one of the wonderful gifts nature has given to California— a gift that is not half appreciated as yet. It is about the only conspicuous vine in bloom at this time and thus has no competition, or at least very little.

It thrives out of doors from San Diego as far north as Niles in the San Francisco Bay region. The fact that it is not more largely grown shows that we have not yet learned how to grow our somewhat tender vines that eventually grow a woody bark. Such vines should be protected each winter for about three years or until they have had time to mature their bark. After that time they are usually hardy enough to withstand our ordinary winter frosts.

Its time of bloom seems to vary considerably in different sections of California, as well as the length of time bloom remains. The earliness or the lateness of the season also varies from year to year. In San Diego it is said to bloom from November to February. In Pasadena from October to March (Hoak) and from the middle of November to April first or in full bloom from December to March. In Santa Barbara from August to February, though it has been seen in bloom there in June and in July. In Florida it blooms twice a year, once in mid-winter and again in early summer. (Mowry.)

Since Oregon has been wise enough to make a feature of one rose she can grow well why has not California followed suit by making a feature of its most colorful vine, the one that grows best in all localities. It well might be this Orange Trumpet Creeper or some other vine, such as the lavender *Distictis lactiflora* so popular now in southern California. We have not made the most of our vines, partly no doubt, because we have not yet had experience enough on cultural needs, or what is more likely, we have not taken the trouble to publish the experience of those who have best succeeded in growing our long list of introduced vines.

The leaves are opposite and composed of either two or three leaflets.

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Pyrostegia ignea
(Formerly Bignonia venusta)

It climbs by tendrils, also has disks. Each cluster of flowers is in the axil of a leaf, these leaves being rather widely spread so that twenty-five to thirty flowers can easily fit into this space. The ends of the branchlets may have as many as forty-five flowers.

The corolla tube is about three inches long but slender with a very short calyx which does not hide the flowers. This calyx is a dainty green the same color as the new leaves and gradually lead from the light petals to the dark foliage.

It is easily propagated from cuttings taken when the plant is dormant, probably in March or April. "Easy to grow them," says K. O. Sessions, "Slow at first, but later very fast, after it is well established."

It will grow to great height, forty feet or more in California while it grows to seventy feet in Florida. It can therefore be draped along a fence for a long distance, and will bloom for four or five months with its orange color while it is a good green the rest of the year.

It can be used on house walls with appropriate colored plants along the foundation, such as *Asclepias curassavica* to hide its leggy base or some contrasting color may be used instead.

It is used as a pergola vine, or on balustrades, or embankments, or can climb high in a conservatory with its flowers blooming for months. In fact, where can it not be used?

"A showy winter bloomer. Not generally planted because of tenderness below 28 degrees. At its best along the coast but will grow in the interior if not frosted. Blooms throughout the winter on new growth. Never gets too woody but an occasional pruning improves it. Enjoys a position where it can festoon in full sun. Likes strong loam soal." (J. A. Gooch.)

"Blooms at beaches February and March, in Pasadena April and May. Likes a south exposure; give it protection. Fine at beaches." (A. Jannoch.)

Solandra guttata (Copa de Oro; Chalice Cup), Solanaceae, Mexico.

The name Cup of Gold is likely to conjure up extravagant pictures of its loveliness, especially when called by its romantic Spanish name of Copa de Oro, but a first glimpse of a young specimen of it on a miserable backyard shed destroyed all the glamour. To those who associate beauty of flower with delicacy of form, the sight of an awkward scrambling shrub with stiff leaves far apart and immense ungainly flower buds brings a feeling of keen disappointment. But wait, what is the principle that has been violated that gives that uneasy feeling? It is lack of scale and harmony with its surroundings. The plant is too colossal and needs a far grander setting than a small backyard where it can find neither the room nor the associates that it really demands for proper appreciation, for it is truly a royal plant whose beauty is much enhanced by an appropriate setting. It seemed to lend itself especially well to garlands or rosettes about a white house, where it was seen climbing a corner for about fifteen feet and then trained horizontally for twenty-five feet or more under the second story windows where is displayed thirty buds and flowers at one time, with no other vine to divide our attention. In such a situation it was in scale and regal in its effect. From such a setting came the photograph which illustrates this subject.

Again it was seen over the top of a noble pergola which graces one side

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Solandra guttata

of a garden in Santa Barbara. Our eye followed the line of the pergola and traced the outline of one vine for the astonishing distance of two hundred feet. It was quite in scale as it tossed its huge solitary flowers here and there along that unbelievable distance. It has been known to grow twenty-five feet in seven months.

In San Diego it was especially fitting as it draped the front entrance of a house from the ground to an iron grill support over the door and gave a bold subtropical effect. It made a very handsome flower ornament and a good illustration of the way a flower and building each enhance the beauty of the other.

Copa de Oro is said to have been introduced into the Los Angeles region about thirty years ago and is considered tender to frost there, but we have gradually acclimatized it until it is becoming a familiar sight even in parts of northern California about the San Francisco Bay region, where it is now fairly well established. Even our disastrous 1932-33 freeze only killed some plants, for though cut to the ground many came up and were in bloom again by the second season.

It is not difficult to grow, even about the Bay, if you know its requirements. "It likes perfect drainage, a south exposure well protected from the north and west winds. Stands 26 degrees without injury. Perfect drainage is the first essential to success. The soil must be so porous, so well drained that water may not stand about its roots even for an hour, otherwise the buds are sure to drop before they are half grown." (Barnhardt.)

While it may bloom in four years under right conditions there have been many complaints about its not flowering. The remedy for this has been suggested by two people who have grown it. Miss K. O. Sessions of San Diego gets it to bloom all the year around by cutting off the end of the long growth, when every side branch growing out will have a flower. (From Golden Gardens, August, 1935.)

The late Edmund D. Sturtevant had another method. He read that the English, after the Cup of Gold had made a strong growth, were in the habit of withholding water altogether until the leaves began to drop from drought then an abundance of flowers would follow. Mr. Sturtevant made his own experiments and in the Pacific Garden for April, 1909, published the results of his study as follows: "Here in our climate (Hollywood) it (the Cup of Gold) will grow almost continuously if it is supplied with moisture. But as well-ripened wood is the chief essential for getting it to flower freely, it is well to plant it where water can be entirely withheld from the beginning of autumn until the time of our first winter rains."

The different cultural treatments that have been tried out on this subject might account for the different reports received as to when it blooms. Santa Barbara and Honolulu report its blooming all winter (January, February and March) but it has also been seen in July and August in Santa Barbara. In Florida, Mowry reports it as blooming all summer. Los Angeles reports its bloom from mid-winter to early summer, while San Diego is the favored spot where it "blooms all the year."

As to soils it will grow in any soil though it needs good deep soil and must have prefect drainage. "It does not need fertilizers unless you seek a gigantic specimen."

As to faults it is apt to be leggy

below, the leaves too stiff and far apart to be graceful and if it grows too vigorously it does not have so many flowers. When such has been the fate of the plant under your care it can still be beautiful by growing some other vine with it. In one example, the Cup of Gold was on a rustic pergola, its leaves small and sparse; the flowers few but colorful. *Philadelphus mexicanus* was planted with it and supplied ample foliage which gracefully draped over the rustic overhead structure and gave a grace and fragrance without overshadowing the flowers of the Cup of Gold but rather, enhanced its beauty.

It was also charmingly used on the trunk of a palm where it appeared and disappeared. It is used on sides of porches, on houses trained on wires or trellises and even espaliered on a warm south wall where it could get both sun and heat.

Mr. de Forest in the Santa Barbara Gardener mentions seeing it used as a fitting companion with *Romneya coulteri* in the foreground.

The flowers seem to need no description as they were so clearly photographed. The chalice is shown as a goblet shape about eight inches wide of a golden color with five light stamens protruding from its mouth and five purple lines radiating out from the center. The leaves are not the size of those on the main stems as they are still young and not yet fully developed, but they are thick and leathery and ample when the right requirements of the plant are met.

"Tender below 28 degrees but can be grown all along the coast and in the warmer interior sections. Has made forty to fifty feet runners at Tustin. Blooms in early summer and for many months. Likes rich soil and plenty of water. Needs severe pruning as blooms are produced on new growth." (J. A. Gooch.)

"Grows to 150 feet or more. Likes south or east exposure. Protect from frost. Has mealy bugs and aphis." (Lucia Fox Edwards.)

Thunbergia gibsonii (Orange glory), Acanthaceae, Tropical Africa.

This common name is well chosen for it is another colorful vine which can be used to strengthen the idea that southern California needs to select garden colors "with a bold eye" on account of the dazzling atmosphere which absorbs much of the color. In some sections of the sunny south it is everblooming while in less favored regions it is semi-deciduous "and looks miserable in winter."

When it was first introduced here it was only considered as a trailer two to three feet long and was largely used in pots on walls to give a touch of color. As time went on, however, it was found to grow seven feet tall or even to the very top of a two story house. It is seen everywhere, sometimes alone as a ground cover, and again backed by an orange lantana hedge; or it climbs a tree, or is a gay mass running over a retaining wall, or over an eight foot fence or even better on an arbor, or a trellis. It even does well in a hot dry situation.

How does it hold its popularity? At present it is all the rage in Australia where it does not set seed. They are therefore sending to California and begging for seed which is here so viable that the plant resows itself all over the garden. That is nothing against it as long as it is popular, but as it is aggressive, fast growing, its color then dominates the garden and limits the other colors that may be used. So in southern California there is a slight tendency to look askance

at it in spite of its gorgeous color and the many uses to which it may be put about the home.

Like all everblooming plants it is likely to become commonplace, and we forget to look for its interesting points. Its leaves are rough-triangular about three and a half inches long if the winged petiole is included, and are covered with harsh hairs which are apt to sting sensitive skins. The edge of the leaves is ciliate with several rather remote teeth.

The flowers are solitary with a stalk four inches long. This is flexible enough to bend and hold the orange-colored flowers in full sight, everyone turned outward from the wall with its green background of leaves. The result is striking for the plant is grown on a chicken wire and has twisted itself through every strand as though it had been carefully trained by hand. At first this chicken wire was tacked against the house but the reflected heat in summer was injurious to the flowers, so this wire was later placed three or four inches from the wall to leave a space behind it for the passage of air. It blooms on new wood and as long as this wood can be kept growing it is possible to have fresh flowers. It is very fast growing and soon becomes crowded so that some method of thinning out must be practiced to keep the plant within bounds.

Besides the orange-colored flower two bracts hide the calyx and part of the tube of the corolla. These are green and brown and thickly set with hairs. At first they cover the entire bud and protect the coming flowers from frost or insect pests. Later the bracts open on one side to allow the passage of the corolla tube but not the calyx, which is always concealed within the bract.

"A beautiful vine when in bloom which is in fall and winter. Always seems to have some dead foliage (which may be due to root nematodes) and twig growth. Prefers a cool location and good soil. Not a strong grower but will reach ten feet. Not hardy below 28 degrees but would probably not be killed at this temperature or a few degrees lower." (J. A. Gooch.)

"Blooms in spring and summer at the beaches. Likes sun. Protect from frost in Pasadena. The best flower effects are at the beaches. Has mealy bug and black scale." (Lucia Fox Edwards.)

Trachelospermum jasminoides (Star Jasmine), Apocynaceae, China.

A twining vine that may be successfully grown throughout the whole state of California and should be in every garden on account of its dark leathery foliage and its fragrant white flowers. The petals are twisted in the bud and even the sepals are recurved. The tube of the flower is urn-shaped and dented into fine humps just as it is in the Chilean Jasmine.

The leaves are dark green, shining and leathery and make a good foil for the flowers which begin to bloom when the plant is less than two feet tall. Its blooming period seems to vary in different parts of the state. Some claim that it is in bloom in early spring only, while others state that it will bloom for eight months in the year. Could this discrepancy come from the fact that there are really two types being sold, the one from Sacramento being rather faster growing, more hardy and with broader leaves than the one sold in Los Angeles and vicinity, which is tender, narrow-leaved and generally considered slow growing? The people in the San

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Thunbergia Gibsonii

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Trachelospermum jasminoides

Joaquin Valley, therefore, should try the hardier northern form as they would probably have better success with it. It does not like wind or fog but does grow in them both at St. Francis Wood. It will also thrive in a wide variety of soils.

While it will grow either in sun or shade or semi-shade, it is wise to give it an eastern exposure in southern California and in the hot interior valleys where the direct sun is likely to scorch the leaves. It will stand cold down to 24 degrees.

It seems hard to propagate in regions that lack moisture in the air and there the cuttings must be sprayed constantly until they have rooted.

It may be used either as a climber or cut down to shrub size. It looks especially well on a square pergola post where we do not expect encircling rosettes as we do on a column.

It is sometimes planted with a faster growing vine, such as *Jasminum rigidum,* when large spaces are to be covered, their leaves being the same shape and texture. However, the jasmine covers the space in twice the given time, though if grown in the shade it becomes leggy below. Or you may combine the Star Jasmine with *Jasminum simplicifolium* which goes well with the Sacramento wider-leaved Trachelospermum, and in the Bay region is almost everblooming.

Jasminum azoricum can be used with Star Jasmine in frostless regions as a ground cover or as a low shrub at the feet of Trachelospermum.

Pandorea jasminoides can also be used as its leaves are a shining leathery texture, and it combines well with the Star Jasmine. These are all choice combinations that give fragrance, neatness and a feeling of very choice material.

You need not be restricted to vines as there are various other choice plants that combine well with Star Jasmine, such as camellias, *Ilex cornuta* and *Carissa grandiflora,* all of which are exceedingly choice, and may be seen in the vicinity of Santa Barbara.

Trachelospermum jasminoides may be used therefore in landscape work in various ways, as for pot plants, pergola posts, trellises, foundations of houses, and as shrubs.

There is a variegated variety of the Star Jasmine but it does not have half the beauty of the dark-leaved variety as its leaves are spotted and they take away from the attractiveness of the flowers themselves.

"Hardy above 24 degrees. Spring and summer bloomer. A good vine in shade or part shade on a trellis, pergola or fence. Doing well on the side of a brick building in Pasadena (east side). Likes good soil, plenty of water and an occasional light pruning to induce new growth on the older parts. Attacked by black scale which can be readily eliminated with oil emulsion sprays." (J. A. Gooch, Ontario.)

"Here is a gem of an evergreen climber for hot conditions (whether it will bloom in shade I do not know). Several specimens are trained around cement stand pipes in an open field. They stood the freeze three years ago. Soil in this locality is adobe with alkali conditions prevalent. Just how long they bloom I do not know." (Nova Beecher, Stockton.)

"Blooms in spring, early summer and often again in the fall. Slow growing. Seldom over 12 feet but will spread out 30 feet. Put it in an E. or N. as it burns in a hot exposure. It is especially fine at the beaches but is good in Pasadena also." (Lucia Fox Edwards.)

Sweet Scented-Leaved Pelargoniums

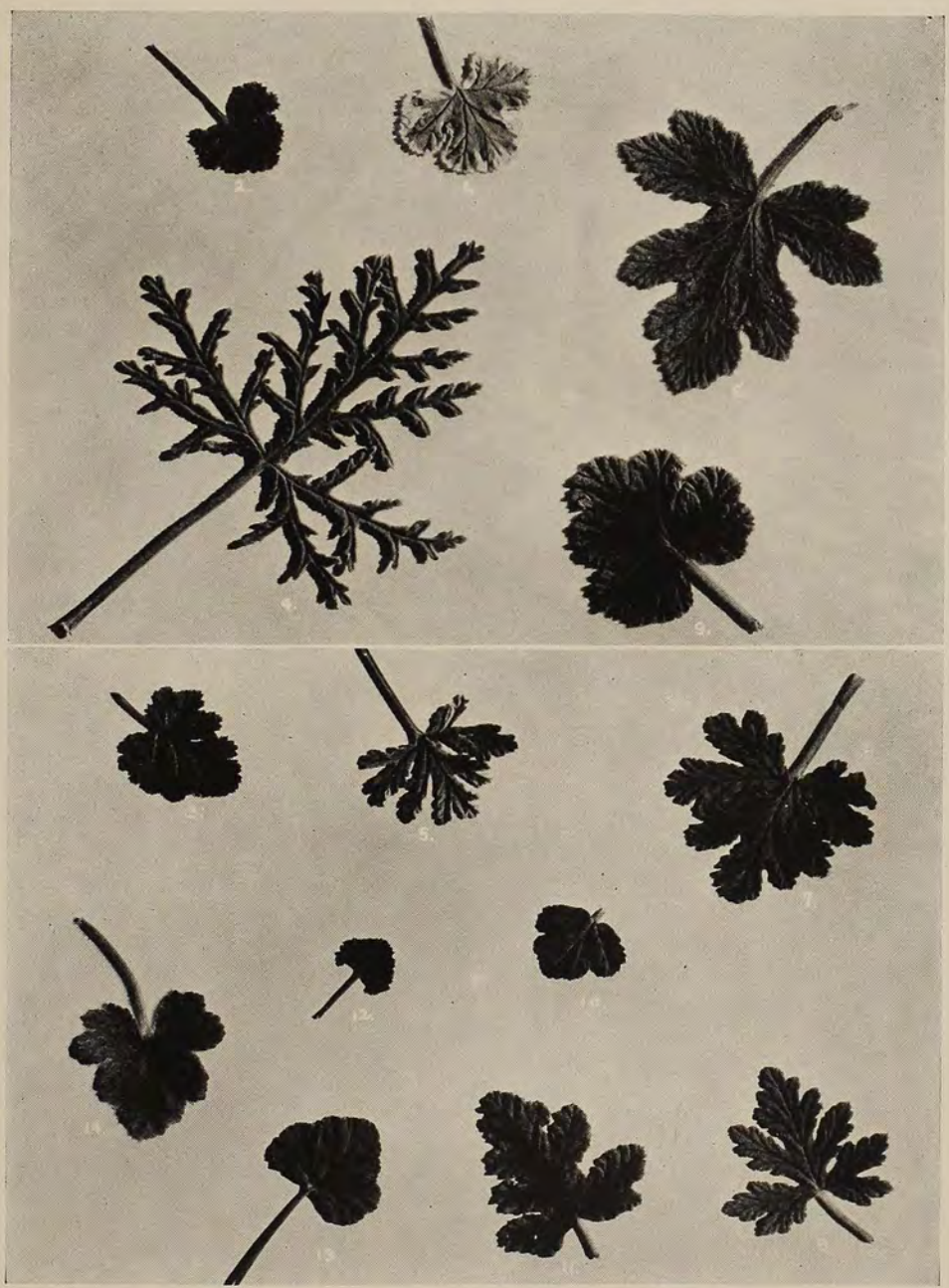
Helen N. Clark

Collecting these plants is like stumbling along a disused road, with few sign posts left and those still standing often pointing in the wrong direction. Since their introduction from the Cape of Good Hope into England in 1632 they have experienced various fates: popularity in garden and greenhouse when the vogue was new with the attendant assignment of local pet names, then long years of oblivion when a few remained in hidden corners, and now in one of those horticultural swings where the new is merely the resurrection of something outmoded and forgotten, the plants are again in the limelight of favor. The unattainable is eagerly sought for, and the labels waiting to be inscribed. Here begins the difficulty, for during the 17th and 18th centuries of introduction and hybridization, much of the performance was according to the plant's own whims, few records were kept and those in terms far from botanical correctness. For absolute certainty one would have to import seeds or cuttings from South Africa which have never varied in their botanical names and start at the very beginning. There was even dissension as to the naming of the species, but for 150 years the divisions of the French botanist l'Heritier have stood, who named them according to a real or fancied resemblance of the bloom's carpels to three birds: geranium, crane's bill; pelargonium, stork's bill; erodium, heron's bill. The fragrant-leaved types are found among the pelargoniums, cousins of the Lady Washington varieties, *P. domesticum,* which have never left the catalogs, triumph of the brilliant flower over the scented leaf.

The main characteristics of the group vary little, the wood is soft and full of sap in the young plant, and seldom becomes hard in ripening, the stems are fleshy and sometimes jointed, and a few have tuberous roots with leaves proceeding directly from them in radical form. Foliage forms are distinct and individual, oval with unbroken line, pinnate with serrated edge, fine or coarse, and all are covered with fine downy hairs, more or less apparent, which secrete a heavy odorous fluid whose scent is only discernible when the leaf is pinched or rubbed. The usual manner of classification is according to these scents, putting each one into a group of like characteristic, the spice group, the lemon group, the rose and mint groups, but even with imagination the delicate odors are difficult to distinguish. It is impossible to test them without removing completely from the fingers the scent of one before passing to another. The shape of leaf and habit of growth help place the plants in their proper niches, and as I will indicate certain of these characteristics seem to be present in each separate division.

ROSE. These plants have never completely vanished from either windows or gardens, possibly because they are largely used in the manufacture of commercial perfumes. Brought to Grasse in southern France in 1800, the oils distilled from them have replaced the expensive attar of roses. Generally speaking the leaves of the group are broader than long, and vary in the coarse or fine cutting of the foliage. I list them according to this characteristic.

P. capitatum. Shrubby branching stems, heart shaped leaves, divided into three or five lobes. Flowers rosy purple growing in large heads. Prob-



Conger

1. *P. citriodorum. Prince of Orange.*
2. *P. limoneum.*
3. *Schottesham Pet.*
4. *Dr. Livingston. Skeleton leaved.*
5. *Lady Plymouth.*
6. *P. melissimum. Balm.*
7. *P. graveolens.*
8. *P. capitatum.*
9. *P. acerifolium. Maple leaved.*
10. *Lady Mary.*
11. *Fair Ellen, Helen, Emily.*
12. *P. crispum.*
13. *P. fragrans. Nutmeg.*
14. *P. tomentosum. Peppermint.*

Courtesy of House Beautiful

ably one of the progenitors of the family.

P. graveolens. Very likely the plant which has never left us, foliage more deeply cut than capitatum, fragrance unmistakable. This name, "graveolens," has been bandied about, Bailey calls it rose, Step and Watson picture it and name it oak leaved, other writers speak of graveolens as nutmeg scented, lemon perfumed. But as the word means heavily scented and the odor is distinctly rose, I place it here. Flowers rose, purple veined.

P. radula. The leaves are becoming more finely divided, deeply lobed into narrow toothed divisions. Flowers light pink with darker markings. Introduced in 1774.

Dr. Livingston. An old time favorite, skeleton leaved, impossible to name correctly, as the appelation is used by no authority, but it is a probable hybrid of denticulatum.

P. filicifolium. Tooth leaved, glutinous, foliage finely divided. 1827. Bailey makes this synonymous with the following, but they are quite distinct. Flowers white with red splotches.

P. denticulatum. The finest cut of all, mere green threads covered with a shiny glutinous substance, sticking to paper as if glued. Brought from Africa in 1789 by Francis Masson. Flowers have the upper petals deeply cleft, pale lilac with purple spot at base.

LEMON. The group characteristics are small curled leaves, crowded on the stalk, stem shrubby at base, numerous branched upright stalks. The species from which there have been many planned or involuntary crossings is given first.

P. crispum. Called the finger bowl geranium, Sicilian lemon, curly. Leaves broader than long, curled at margin, toothed. Flowers five petaled, pale violet, spotted purple, rather larger than most.

P. limoneum. Garden hybrid of early 1800, thin glossy, light green leaves, sharply toothed, cordate at base, slightly tomentose. Perfume most delicate but unmistakably lemon. Purple and lilac flowers.

P. Scarboroviae. Countess of Scarborough, named for the donor in whose greenhouses it originated. Given to the collection of Robert H. Jenkinson. Suggested hybrid of P. obtusilobum and one of the crispum type. Small, broad serrated leaf. Flowers reddish pink.

P. citriodorum. Prince of Orange. Leaves slightly curled with deep white band around the edge. My authority for this label comes from Eleanor Rohde who speaks of "aristocrats such as the variegated Prince of Orange.

P. grossuloides. Another leaf of the crispum type, green with white markings, lemon fragrance. One of the tentative derivations of the name may be from the Middle High German *Krus* which means curling.

P. melissimum. Balm. Foliage large lobed, furrowed on the upper side, wavy and pleated margins, covered with fine hairs of heavy texture. Fragrance like Melissa officinalis, lemon balm. Flowers, five petaled lower ones white, the upper two red stained. Shrubby rapid grower. This may be the one Bailey calls P. vitifolium or grape leaved.

Two others I put in the group as the odor is distinctly fruity.

Monsieur Ninon. The leaf form is on the capitatum order but the fragrance is a delicious apricot much like olea fragrans. A thin satiny leaf, I have wondered if it could be *P. scabrum,* which is noted as "peculiarly sweet scented."

Pretty Polly. Another of much the

Conger

15. P. rapaceum. Mrs. Kingsley or Kingsbury.
16. P. Scarboroviae. Countess of Scarborough.
17. P. Rollinsoni. Rollinson's storkbill.
18. P. alchemilloides. Pheasant's foot.
19. P. fulgidum. Scarlet Unique.
20. Monsieur Ninon. P. scabrum?
21. P. denticulatum.
22. P. radula.
23. P. filicifolium.
24. Pretty Polly.
25. P. terebinthinaceum. Little Gem.

same shape and texture with a decided almond fragrance.

SPICE. Flat soft leaves, thin and silky, mainly round in shape, finely serrate.

P. odoratissimum. 1724. Three lobed, slightly scalloped, satiny, silver bloom on leaves. Stems weak. Flowers pale lilac. Fragrance spicy apple, hence called the apple scented pelargonium.

P. fragrans. 1774. Species from the cape. Three loved leaves, contour slightly irregular, downy. Odor is heavy like mixed spices. Flowers white, five petaled, upper ones streaked with red. Called the nutmeg pelargonium.

Lady Mary. Cordate leaves of pale green, deeply lobed, slightly tomentose. Faint nutmeg odor. Lower flower petals blush white, upper ones violet crimson.

Schottesham Pet. A probable hybrid. Three lobed leaves, each one subdivided, which might mean that some ancestor belonged in the rose or oak-leaved group. Leaf color light green, texture thin, and the scent called filbert has a spicy quality.

P. aceroides or *acerifolium.* Maple leaved. Five to seven lobed, strongly veined, slightly toothed edge with dark centers appearing on some of the foliage. Spicy fragrance. Flowers five petaled, pink with purple striping. Bailey calls this citriodorum, wrongly, it seems to me, as the odor is neither lemon nor orange.

MINT. Thick leaves, tomentose, horizontal manner of branching growth.

P. tomentosum. Pennyroyal storksbill, peppermint geranium. 1790. Thick succulent stems, branching in all directions. Leaves five lobed, thickly plushy and tomentose, having silver down on either side. The most irresistible of the family—if you like peppermint.

P. rapaceum. Mrs. Kingsbury or Kingsley, one meets it under both names. Crumpled almost double leaf, finely serrated, silvered with down, thick stem, very palpably a near cousin of tomentosum. Less pronounced mint odor but distinguishable. The baby leaves are fascinating in crumpled softness.

Lady Plymouth. An old favorite of no discernible botanical name. Variegated green and white leaf, smelling strongly of peppermint, downy surface. Foliage shaped much like the rose type, lobed and divided. There is even a faint perfume of the rose mingled with the mint, indicating a mixing of the two families.

PUNGENT. Strong almost rank growth. Large leaves of heavy texture. Odor not always pleasant, but never absent.

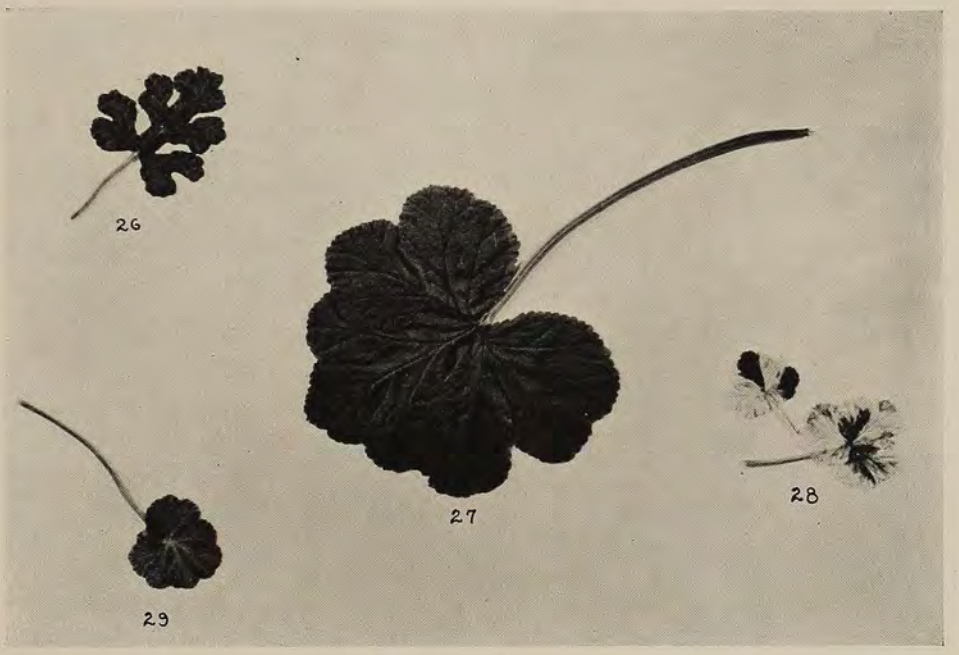
P. quercifolium. Oak leaved. One of the largest, a shrubby plant growing to four feet, leaves pinnately lobed with 2-3 toothed lobes on each side. Flowers rose with dark markings. Odor is rank, tannin like.

Fair Ellen, Helen, Fair Emily. All seem to designate the same plant. A perfect duplicate of the oak leaf, deeply cut, long leaf, thick texture, regular dark center, strong oily perfume.

P. fulgidum. Scarlet Unique. Also of strong growth, leaves pinnately three parted into lobed or cut toothed segments which overlap, edges sharply serrate. Flowers bright scarlet, a distinctive and rare shade. Fragrance aromatic.

Clorinda. Very large three lobed overlapping leaf. Each lobe divided into two or three segments. Pleasant fragrance called by some sharp and refreshing, to me like that of eucalyptus. An old garden plant.

P. terebinthinaceum. Little Gem. Garden hybrid of graveolens and quer-



Conger

26. P. quercifolium. Oak leaved.
27. Clorinda.
28. P. grossuloides.
29. P. odoratissimum. Apple scented.

cifolium, with qualities of each apparent. Broader leaf than long, pinnately lobed, edge serrated and odor like varnish.

P. Rollinsoni. Rollinson's storkbill. A dwarf frutescent plant much branched. Leaf three lobed, fluted and overlapping, edge finely serrated. Pleasing spicy odor. Raised from seed at the nursery of Wm. Rollinson at Tooting and recorded as being related to pulcherrimum. Flowers lilac with deeper velvet patch.

P. alchemilloides. Pheasant's foot. Long leaf, with linear deeply toothed lobes, almost imperceptibly serrate. Flowers veined with rose. Odor of varnish.

Large plants are only adapted to the greenhouse, cuttings, garden planted in the spring, grow like Jack's beanstalk, and also furnish nice specimens for the house during the winter. The indoor requirements are simple, soil of two parts loam, one of sand, one of humus or leaf mold. The pot set in a saucer filled with stone chips, a regular minimum amount of water, scant feeding with a nitrogen fertilizer. Keep the roots slightly pot bound and place in full sun.

Authorities

"Favorite Flowers of Garden and Greenhouse," Edward Step. 1896.

"Geraniaceae," Sweet. 1820.

"The Illustrated Dictionary of Gardening," Nicholson.

"Encyclopedia of Horticulture," Bailey.

A Book or Two

The Gladiolus, 1936. Published by The New England Gladiolus Society, Inc. Sent only to members of the Society on receipt of annual dues of one dollar. 230 pages, illustrated.

The organization of this handsome yearbook is well outlined by the subheadings in the table of contents: Gladiolus as a Hobby, How I Became Interested in Gladiolus, Origin and Development, The Novice, The Amateur, The Specialist, Planting Culture and Fertilizer, Diseases and Insect Pests, Exhibition of Gladiolus, Gladiolus for Decorative Purposes, Digging, Curing and Storing, Hybridizing, Notes on Outstanding Varieties, Gladiolus Institute, Notes from Around the World, Our Society—Past, Present and Future, 1935 Shows, New England Gladiolus, Society Reports, Where to Buy Bulbs. Anyone who has had anything to do with preparing a publication on any special plant will see at once that this covers the field and any reader will admit that his particular interests are covered somewhere among the titles.

Your present reviewer, for example, joyfully skips over to page 30 before he starts to read seriously—in fact, to page 31, and then settles down to solid pleasure until page 48. From that page to page 69 the degree of interest varies, but no matter how low the reaction, there is the joyful admission that all the stories are good. Pages 70-80 are the best ever, clear-cut and to the point. Pages 81-98 cover the sad part of the gladiolus grower's life and the only thing to quarrel about is the lack of proper legend on the plate between pages 82 and 83. The reviewer's interest flags again from pages 99 to 116, and then goes up startlingly for pages 117 to 138. From there on any reviewer is more or less at a loss unless he is a member of the gladiolus fraternity, but he reads on and on to the end.

Year Book, American Amaryllis Society, 1935. Edited by Hamilton P. Traub, Orlando, Florida. 162 pages, illustrated. Annual dues, $2.00.

This volume opens with an autobiography of Theodore L. Mead, to whom the book is dedicated, that should be a useful historical document, an obituary note for the late Dr. David Griffiths, and two book reviews.

There follows a section dealing with the Society—messages and reports—a most entertaining "Mail Bag"—a printing of the Constitution and By-Laws.

After this, the book falls in seven parts: first, Regional Activities and Exhibitions; second, Description and Phylogeny; third, Breeding; fourth, Propagation; fifth, Culture; sixth, Curing, Storage, Forcing and Cut Flowers; seventh, Marketing.

The second section contains a reprint from Dr. Hutchinson's "The Families of Flowering Plants," which departs from other systems by transferring to the Amaryllidaceae a number of tribes and genera usually kept in the Liliaecae, where they still belong in the opinion of others quite as competent as Dr. Hutchinson.

It contains also a check list of Bulbous Amaryllidaceae Native to the United States, compiled by C. V. Morton of the U. S. National Herbarium, which is not based on the Hutchinson system, and a Catalog of

Argentine Amaryllidaceae by José F. Molfino. Dr. Traub gives a note on the differences between the older system of Pax and Hoffmann and the adopted one of Hutchinson, but without any particularly defensive statements. Mr. Hume gives a short paper on the Zephyranthes of Florida; Mr. Ruthruff one on the "Occurrence of Alkaloids in the Amaryllidaceae."

The Section on Breeding contains a rather routine paper by the late Dr. Griffiths on Opportunities for Breeding with Daffodils, illustrated by a Bellingham production of unusually bad form and style; a paper on Nerines by the Messrs. Barr; The Species of Daylilies by Dr. A. B. Stout; Louis Percival Bosanquet and His Crinums by Wyndham Hayward; Peter Henry Oberwelter, A Texas Amaryllid Pioneer by C. W. Hall; My Father's Work with Amaryllis by A. H. Nehrling; Some of the Newer Daffodils by Mary McD. Beirne; Artificial Reversal of Growth Dominance in Amaryllids by Hamilton P. Traub; Experiences in Breeding Crinums by Cecil Houdyshel; Belladonna Lily Hybrids Pamianthe peruviana by Th. M. Hoog.

The most interesting papers in the book are the Vegetative Propagation of Hippeastrums by Ida Lutyen, and Dr. Traub's Propagation of Amaryllids by Stem Cuttings.

The papers in the sections that follow are good but relate chiefly to very special plants or special areas.

Dictionary of Terms. Compiled by T. J. Bezemer. The Williams and Wilkins Company, Baltimore, Md., 1935. $8.00.

Although this volume appears as one, it is in reality four, with separate sections, in Dutch, French, English and German.

Unlike a strict dictionary where only single words appear, this volume also includes phrases and terms with the arrangement of the term in order of use and not rearranged to give the noun or verb precedence. For example, one finds the entry, "final yield" under the f's, and it does not reappear as "yield, final" under the y's. When one has become accustomed to this usage, all goes well, but at first it seems awkward to the English reader and presumably might be equally so for the French reader. For the German or Dutch reader, whose tongues so often provide a compound noun for our English phrase, this will seem, perhaps, a curious comment.

The editor points out that this is not a descriptive or defining dictionary, and reminds us that it is a Dictionary of Terms, intended to provide equivalents in the four tongues. As such it should be of greatest value to workers who must read foreign texts and cannot get from the usual dictionary the exact equivalent.

The compiler was assisted by a notable group of colleagues, all of whose names are fully recorded on the title pages and to some of whom special thanks are recorded in the Editor's Foreword.

Flower Garden Primer. By Julia H. Cummins. The Macmillan Company, New York, 1935. 334 pages, illustrated. $3.00.

One of the most eager and at the same time impatient of all readers of garden books is the beginner, and very often there is a degree of reasonableness in his impatience. His chief difficulty lies usually in the very fact that he is a beginner and finds that there is too much taken for granted in each text to make it useful for his beginning efforts.

Mrs. Cummins' book is designed for this sort of reader, and is written so that her text may be taken as a

veritable guide for garden beginnings. It is full of sage and experienced advice, based upon years of experience. Soils, Annuals, Perennials, Biennials, Succession of Bloom, Garden Planning and Re-making, Special Gardens, Special Plants, Garden Maintenance are all discussed, and from this particular point of view. If you are, therefore, an old gardener and likely to be patronizing, don't read this book. But, if you are an old gardener, who has discovered that gardening is a perpetual study, filled with beginnings, try it anyway, and in all probability you will discover a point of departure you may want to prove for yourself.

Claude Monet and His Garden. By Stephen Gwynne, The Macmillan Company, New York, 1935. 170 pages, illustrated. $2.00.

This is a delightfully simple book, animated by a warm regard for the painter and his work. The story of his life is told with gentle humor and through it runs the story of the painter's passion for light and its color. It is with flowers as sources of color, and water-lilies as flowers related to water that we are most concerned. Of the latter there are both photographs and photographs of paintings. If the latter seem less wonderful in black and white reproduction, it is only that, as anyone can see who visits Paris.

For the gardener who reads a book to find what he may of immediate use for his own garden, there is very little unless he examines the illustrations and discovers for himself the beauty of the water-lilies planted on a still surface where their patches of foliage and flowers make patterns on the lighted or shadowed water surfaces.

Rhododendrons and Azaleas. By Clement Gray Bowers. The Macmillan Company, New York, 1936. 549 pages, illustrated. $10.00.

As one can see by the data above, this is a large book, but one does not see that it is a handsome one. The illustrations are quite unusual, exquisitely colored and composed with singular feeling for the page. If one could wish that some of the specimens pictured had been more robust, that remains a personal desire, for it seems that the material is authentic and typical for some parts of our country.

One has great admiration for the thoroughness of the plan and its execution. The successful culture of this group depends upon an understanding of the needs of this group and one's capacity for approximating them in one's own garden. The first seven chapters deal with this. The next four chapters deal with the choice of the plants. The next three discuss propagation. The next five, the most important contribution of the book, are for the breeder. The remainder of the book is of historical value, mixed with endless bits of prime importance to the grower.

It is quite possible as time goes by and we have more and more first hand data as to the behavior of species and hybrids in more parts of the country that additional volumes will be needed, but they probably will never displace this parent work, which is as it should be.

Surely from now on, Americans will be more aware of the riches to be found in this genus that was for so many years identified with our own country though now it must share honors increasingly with China and Japan.

The Gardener's Pocketbook

Prunus mume. Seib. & Zucc. (See page 76.)

The Japanese apricot often appears in lists of the special flowers of Japan but tourists do not so often get to Japan in time to see its flowering since it comes well ahead of the famous cherry blossom season. In Japan, however, the "mume" is considered even more poetical than the cherry and by purists is far more esteemed, since its flowering comes as winter leaves the scene and its branches are sometimes laden with snow as well as flowers.

In this country its precocious habit often results only in trouble, for a warm season in midwinter will start the flower buds into growth only to freeze them later with a return to winter. The plant is not quite as hardy to cold as the fruiting apricots and so is most useful for southern planting. Even there situations should be chosen that will retard flowering to the latest possible time.

The plant develops vigorously into a small and rather tangled tree with many interlacing shoots and branches that are armed with spiny short spur-like flowering shoots. For this reason, pruning is a painful operation but it need not be done often or very severely. Flowering becomes most abundant after the tree has finished its initial growth and has settled down to the slower pace of maturity.

In color the flowers range from snowy or greenish whites to deep rose pinks; in form single to fully doubled blooms. All have a delicate scent that is most apparent on warm days.

The single flowered forms produce a small fruit of rather indifferent quality that is made into a pickle in Japan, using a brine for the pickling medium. They are eaten with meats and other foods and never alone. Their eating by an occidental is more likely to be an experience than an event and rarely leads to a habit.

For our country, therefore, the plant is most to be recommended for those regions where other winter-flowering trees and shrubs safely produce their untimely flowers.

Sisyrinchium grandiflorum (See page 77.)

This charming Western relative of the blue-eyed grasses has been mentioned many times in this Journal but its picturing has been deferred in the hope that it might be better shown than in the accompanying illustration. This, inadequate as it is, shows the different habit of the plant with its less flattened leaves and its larger, more pendulous flowers. These, instead of making a flat six-pointed star, hang like a delicate if spreading bell, and are of a most astonishingly delicate texture, like that of finest silk.

The color of the flower varies considerably but the commonest hue is a moderately deep, slightly purplish, rose-red. The variations lead over to deeper colors and to paler ones. Pure whites are found and whites with tinted petals. Many of these have been segregated by collectors and are being grown under nursery conditions to assure their increase.

Gardening luck in the East seems to vary with this plant. Autumn planting seems inevitable on account of the early start that the plant makes. A rich

Lilian A. Guernsey

[*See page* 75]

Prunus mume

Michael Carron [*See page* 75]

Sisyrinchium grandiflorum

soil well supplied with humus and grit and an adequate supply of moisture during early Spring seems to be necessary. Given this, the plants have persisted here for some years, but something seems wanting since they do not flower annually.

Even occasional flowering is enough, however, to reward one, for they come into bloom with the earliest of the usual bulbous plants and make a welcome variation from the familiar snowdrops and winter aconites, or even the more precious bulbous iris species.

Narcissus, Aerolite. (See page 79.)

In offering recommendations for yellow trumpet narcissus, one always wonders if the recommendations can be justified since this is a very numerous group and does not offer many possibilities for variation. There are, to be sure, variations in season although most of the yellow trumpets as a group are early in the general narcissus procession. Variations in stature also are to be found from the small species trumpets, the somewhat larger *cyclamineus* hybrids and the vast array of taller forms. Color varies from pale to deep golden and varies more in the varieties that show a slightly different hue in trumpet and perianth than those that are self-colored.

This variety belongs in the larger-flowered group and while by no means the earliest, is one of the earlier varieties to bloom. As the illustration shows the flower is approximately the same color throughout, a clear cool lemon. Its distinction lies, however, more in the form of carriage of the bloom than in any other field.

Unlike many yellow trumpet varieties that are more familiar, this has a rather slender trumpet that does not flare immoderately at the mouth. This gives a feeling of delicacy to the flower without suggesting weakness and is a pleasant variation from the larger, more robust flowers commonly grown. In addition there is a slightly backward flaring character in the perianth, such as one more commonly associates with *cyclamineus* hybrids, that gives a rather piquant carriage to the flower.

Here the plant has grown well, increased regularly but not too rapidly and has flowered year in and year out. Perhaps for the gardens of the future this will be what Emperor has been for years.

Washington, D. C.

Lamium maculatum (Linn.) Dead Nettle. (See page 80.)

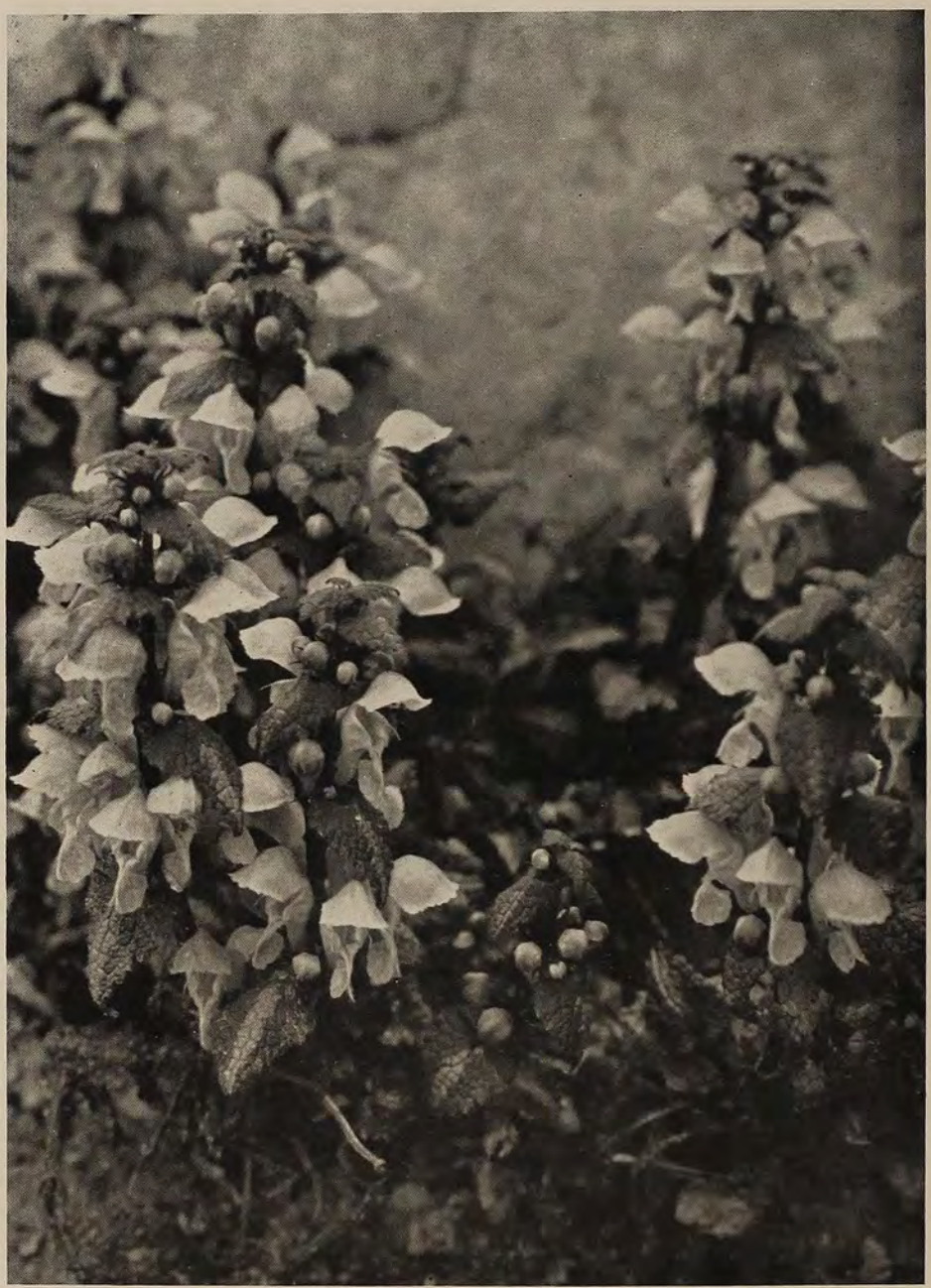
Like so many other roots and herbs we now use, *Lamium maculatum* was introduced into this country from Europe. In the eastern part of the United States it has strayed from some of the old gardens and is often met with along the wayside, well drained fields and dry sunny slopes. Very nearly all horticultural reference books list it with but brief discription and slight comment for a plant that found such wide favor with gardeners of early American days. It must have had some very interesting medicinal or sentimental history that seems to have been lost.

My experience with it has been that of a very useful plant for the rock garden. In a dryish spot in full sun it has been very happy when ruthlessly divided every second year; in a half shaded position it has made itself very much at home and looked very presentable with nothing more than an annual midsummer clipping which as the usual rejuvenating effect of producing new stolons or leaf rosettes

Lilian A. Guernsey

[*See page* 78]

Narcissus, Aerolite



Michael Carron

[*See page 78*]

Lamium maculatum

Michael Carron

[*See page* 82]

Romulea bulbocodium nivalis

at the base. In soils that are very moist *L. maculatum* is likely to develop a stem rot and in soils containing a large quantity of humus or an over supply manure is very likely to produce much foliage but little or no bloom. Although the foliage is very attractive and one would be well repaid for growing this plant for its light green leaves that have whitish blotches along the midrib, giving the nearly heart shaped leaves a unique distinction. A most useful variation of color throughout the growing season in the rock garden.

The flowers varying from purple-red, through lavendar pinks to white according to seedling selection will be found in the trade under the name of *L. maculatum,* or *L. maculatum variegatum.* The white form is usually listed as *album,* and the deep colored one as *purpureum.* All colors are good, clear and clean cut.

The flowers look a little like the linarias in shape, borne on leafy stems a foot to eighteen inches tall in ascending clusters. They appear in great profusion when grown in open soil that is well drained.

I. N. Anderson.

Ballston, Va.

Romulea bulbocodium nivalis. (See page 81.)

The small bulbs that came by a very devious route to the garden here caused excitement in inverse ration to their size, for it was an event to handle the bulbs themselves, much less feel the enthusiasm the prospect of their flowering engendered. Remembering the fact that all romuleas are supposed to be less hardy than crocus, a spot was chosen where the drainage would be perfect, the soil was modified by the addition of both humus and gritty sand and the bulbs commended to the winter.

The following spring the grassy leaves began to push through and finally there showed the promise of a flower bud that eventually turned into the flowers pictured. In a way these are something of an anti-climax for their whiteness is not shining, their yellow tinted throat not like a summer sun, and the faint lilac tinting more or less indeterminate. As the flower opened the peduncle lengthened and when the seed pod was well developed it showed a length of five or six inches and an amusing habit of curling about on the ground.

The plant perhaps sensed the lukewarm character of our admiration for it has never flowered since. It has persisted, however, in spite of three successive winters of sub-zero temperatures that have finished other supposedly more hardy plants.

Perhaps if the species had been *rosea* with its pinkish flowers or *Clusiana* or *Macowanii* with yellow blooms, more regret might be felt.

Washington, D. C.

Leycesteria formosa. (See page 83.)

Among deciduous shrubs with conspicuous bark colors there are relatively few in which that color is green. Such is the case with this plant under our conditions where it is sometimes killed to the ground during the winter so that each year sees an abundance of new shoots. These rise to about 8 or 10 feet, their tips bending over rather gracefully, under the fine load of dark green foliage.

In late summer, drooping spikes appear in all the axils of the leaves on the upper parts of the shoots, that are conspicuous for the large and reddish bracts between which appear the pinkish-white, abelia-like flowers. These are followed by purplish black fruits, that are almost more conspicuous than

Lilian A. Guernsey

[*See page* 82]

Leycesteria formosa

Lilian A. Guernsey

[*See page* 86]

Cotoneaster pannosa

Lilian A. Guernsey

[*See page* 86]

Rhododendron micranthum

the flowers since they are cumulative in effect while the flowers appear at various times. In no case would the shrub be considered as interesting as one of the hydrangeas, altheas or crape myrtles that fill the late summer shrubbery with color, but certainly it is quite interesting enough to compare with some of the black fruited shrubs more commonly grown.

The exact range of the plant's hardiness is not known, but from the behavior of the plant here it would seem that it might fall into that group of plants in which the roots endure and the tops are quickly replaced after winter killing. Unlike buddleia, caryopteris and similar plants, this makes a relatively secondary display of flowers and fruits and so is probably worthy of attention only in the South.

The note in Curtis Botanical Magazine (Tab. 3699) is written from a description of a plant flowered in the greenhouse at the Edinburgh Botanic Garden in 1838. The color plate shows a much more conspicuous inflorescence than any observed out of doors here, with less conspicuous bracts and more flowers open at one time.

Washington, D. C.

Cotoneaster pannosa. (See page 84.)

This species is not for the North but for the South and West where it will not be subjected to winter temperatures of severity, nor to summer heats of too great intensity. Native to Yunnan, China, but not at particularly high elevations, it was sent back to France by the Abbé Delavay about 1888 and reached England four years later. By what route it reached this country, our available records do not say.

It is properly an evergreen and does not have the faculty of becoming deciduous in color climates as do some species. It also has a tendency to continuous growth late into the season which is particularly undesirable in northern garden plants. The actual size and character of the leaves and fruits are shown well enough in the illustration. It remains only to say that the under surfaces of the leaves are almost white with soft wool and that similar white wool covers the young shoots, disappearing as they mature. The flowers appear in crowded hawthorne-like corymbs to be followed by dull and rather hard orange red fruits that persist well after frost and fairly well after cutting. As the leaves fall off, unless the cut branches are put in water the plant is not of much value for decoration.

All texts speak of its general similarity to the more common *C. Francheti* and point out that that species has larger, brighter green leaves, less showy flowers in the cluster. As this species is somewhat more hardy than the subject of our note, it may be considered as a poor substitute, but even it is not dependable in the North as generally understood.

Rhododendron micranthum.

It was not possible to include a photograph of this hardy but not particularly showy species with Dr. Bower's note in the issue for July, 1935, but it is hoped that those members who are most interested in rhododendrons will have no trouble in turning back to page 284 of Volume 14 and reading what he has to say.

The American Iris Society

THE American Iris Society, since its organization in 1920, has published 54 Bulletins which cover every phase of iris growing and should be useful to all gardeners. The Society has copies of all but three of these Bulletins for sale. A circular giving list of contents of each Bulletin, price, etc., may be secured from the Secretary, B. Y. Morrison, 821 Washington Loan & Trust Bldg., Washington, D. C. **In order to dispose of surplus stocks of some numbers we offer 6 Bulletins (our selection) for $1.00.**

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The American Horticultural Society invites not only personal memberships but affiliations with horticultural societies and clubs. To such it offers some special inducements in memberships. Memberships are by the calendar year.

The Annual Meeting of the Society is held in Washington, D. C., and members are invited to attend the special lectures that are given at that time. These are announced to the membership at the time of balloting.

The Annual Meeting luncheon will feature a lecture by Mrs. F. Stuart Foote, "The Lure of the Daffodil." The Narcissus Show of the Garden Club of Virginia, April 15-16, and of the Daffodil Club of Maryland, April 16-17, make this a most important week for garden lovers.

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