

THE *Camellia*
REVIEW

A Publication of the Southern California Camellia Society



'Rose Parade'
Courtesy Nuccio's Nurseries

Vol. 31

November 1969

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One Dollar

Southern California Camellia Society Inc.

An organization devoted to the advancement of the Camellia for the benefit of mankind—physically, mentally, and inspirationally.

The Society holds open meetings on the Second Tuesday of every month, November to April, inclusive at the San Marino Women's Club House, 1800 Huntington Drive, San Marino. A cut-camellia blossom exhibit at 7:30 o'clock regularly precedes the program which starts at 8:00.

Application for membership may be made by letter to the Secretary. Annual dues: \$6.00.

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THE COVER FLOWER

C. Hybrid 'Rose Parade'

This month's cover flower is a 'Donation' times japonica hybrid that is being introduced this year by Nuccio's Nursery of Altadena, California. It is a rose pink formal double with a long blooming season, early to late. Growth is upright and compact.

New 1970 Edition of CAMELLIA NOMENCLATURE

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THOUGHTS

from the editor

All camellia societies need new members, both for financial reasons and to maintain the viability of camellia societies. Expenses are going up, income from dues is doing little more than holding its own. While I have no statistics, I would guess that the average age of camellia society members is increasing. We need new younger members who are interested or just becoming interested in growing camellias as a hobby.

First, of course, is to create an understanding among all present members that the need for new members is urgent in order to maintain a healthy society. Create a "we", not a "they" point of view.

Second, societies should have programs that are geared to new members and to present members who are seeking knowledge and building up their hobby, not to the older members whose main reason for attending meetings is fellowship with other camellia people. It is better that older members stay away from meetings because of repetition of information they already know than that visitors and new members stay away because they get nothing which they seek.

There should be an active Hospitality Committee at every meeting that seeks to court visitors and the newer members. Greetings at the door are not enough. While, as I said above, the older members want fellowship with other members, they have a responsibility under present conditions to help the visitors and new members obtain what they are seeking at the meetings — knowledge and acquaintance with camellia people who have this knowledge.

Garden tours should be made an important part of the camellia season. They should be programmed well in advance of their dates and broad publicity should be given. They should not all be crammed into one day so that the visitors are forced to hurry from one garden to another to get them all in. Time for fellowship is an important part of garden tours. This could be a cooperative project among the societies in the Los Angeles area. After all, the objective should be to build up interest in camellias for all camellia societies. In order that people who want to talk and listen will be given full attention, the garden host might invite one or two other couples to assist in the hosting. And finally, a Garden Tours Committee might personally invite the newer people, those who feel some reticence about barging in among those "who know it all" to attend the tours rather than to rely on the general publicity to cause their attendance.

Most people who are prospects for membership in camellia societies must be courted, first to obtain their attention and second, to retain their interest.

Harold E. Dwyer

CALIFORNIA CAMELLIA SCENE

(PART I)

Col. Tom Durrant
Tirau, New Zealand

On February 28, 1969, we came down through heavy rainclouds on to Los Angeles Airport. Here we were met by Harold and Elsie Dryden, in whose charming house and garden we were guests for several days. In the following 14 days we saw an almost bewildering array of camellias, visited many gardens and got to know a large number of kind, friendly people, most of whose names had been long familiar to us in camellia literature. Long after our impressions of the flowers and the gardens have begun to fade, we shall have vivid memories of the happy days in California, shared with friends who did everything possible for us and gave us hospitality which was the heartwarming experience of a lifetime.

Conditions for camellia growing in California, especially in Southern California, can hardly be described as ideal. High temperatures, very low humidity, hot drying winds, low rainfall, alkaline soil and water have to be overcome and that good camellias are grown under these conditions indicates two things: the first, the extreme adaptability of the camellia plant; and the second, the high order of skill, knowledge and determination of the people who grow them.

A high proportion of camellia gardens are in urban areas where space is at a premium and, in some degree, this is just as true in Auckland or Wellington, New Zealand, as it is in Los Angeles or San Francisco. If one is a camellia enthusiast and one wants to grow many of them, and at the same time produce high quality flowers, then a great deal can be learned from our California friends who really have the business reduced to a fine art. In very small gardens, large numbers of camellias imply container

cultivation for many of them. Nowadays, the "rusty tin cans," commented on by many overseas writers, have been replaced by neat and indestructible plastic containers. In these it is possible to control soil mixture, moisture and feeding, with the added advantages that the containers are light, easy to store when not in use and enable plants to be rearranged for effect and moved into or out of shelter as required. Larger plants are grown in 10in or 12in cedarwood boxes which are very pleasant to look at, as well as being effective plant containers.

For this first part of our account of the California camellia scene, we have chosen to describe three gardens, each of them different but each illustrating the way in which the owners have succeeded in satisfying their urge to grow camellias.

At Long Beach, in a fairly densely populated area, lives Melvin H. Gum. His piece of ground is 50ft wide and 150ft in length, which is less than one-sixth of an acre, and most of it is taken up by the house and a double garage. He has no less than 1,600 camellias, which figure includes seedlings and young plants in small containers. A neighbour has let him use part of her garden, which accounts for a hundred or two of the seedlings, but all the rest are on the property and organised and arranged with almost military precision.

Round two sides of the house is a narrow border into which are plunged large camellias in containers at 3ft intervals. Having them in containers enables rearrangement as desired and a constant display of plants at their peak of flowering—all looking from a short distance as if they are grow-

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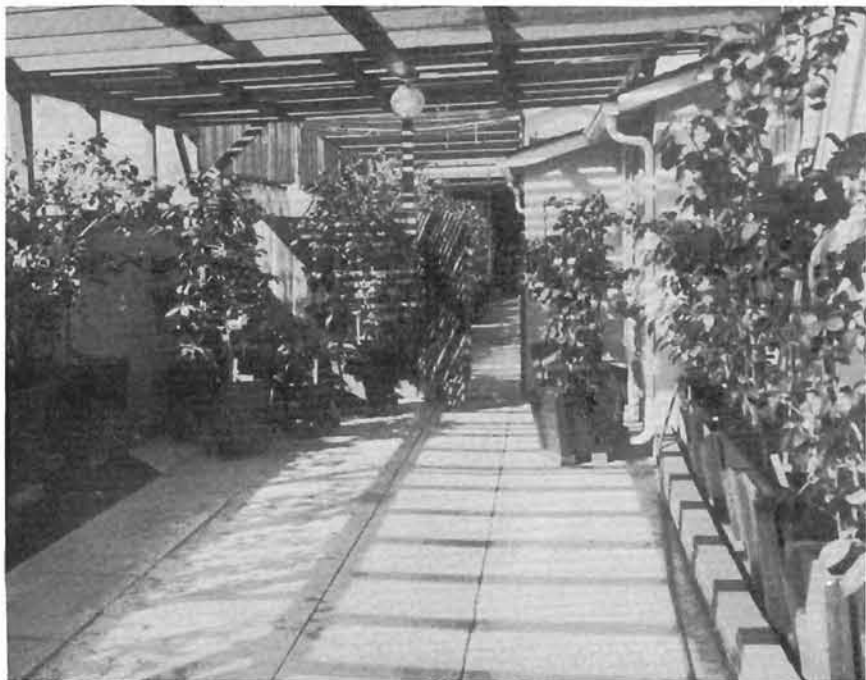
ing in the ground. The double garage has become the camellia workshop. In it are two large refrigerators in which can be stored plastic boxes containing flowers to be taken to shows. Blooms are packed in the boxes on a bed of finely shredded paper or cellophane. This is preferred to moss because it is easier and cheaper to buy, much easier to store and just as effective for packing. Fertilisers, soil mixes, peat, drainage material, containers, labels, insecticides, fungicides and tools are all stored with precision and everything possible is available to speed and facilitate the care of this large number of plants. Propagating facilities for germinating seeds, striking cuttings and making grafts are kept at laboratory standards.

Alongside the house is an extensive breeze way or carport (Fig. 1) which is roofed over with transparent material and has a concrete floor. Work can

go on here, irrespective of weather, or of the time of day, since it can be floodlit. Here many of the flowering-size camellias are marshalled with great ingenuity. Large containers are on rollers and can be easily moved about on the concrete floor. Three-tier staging is used for smaller plants, the staging also being on rollers and there is provision for sprinkling and humidifying during hot weather.

All this organisation enables Mel Gum to produce a large number of beautiful camellias through a long season. Plants are pruned in March, just after flowering and sprayed and fertilised on a regular programme. It was late in the season when we made our visit but there were still many fine flowers to be seen.

We asked what happened as the smaller ones grew up and occupied more space. And the answer, "Well, selection has to be pretty rigid, but there's always some one who would



Mel Gum keeps his camellias in the breezeway.

like to be given a nice camellia plant!"

The second garden belongs to our friends Bill and Ruth Goertz, who have visited us in New Zealand and were our very kind hosts for the latter part of our stay in Los Angeles. The garden, in San Marino, is not large by New Zealand standards but it is an example of what can be done by very careful planning of the layout, combined with the most meticulous general care and maintenance, not only of the many camellias but of every plant in the garden.

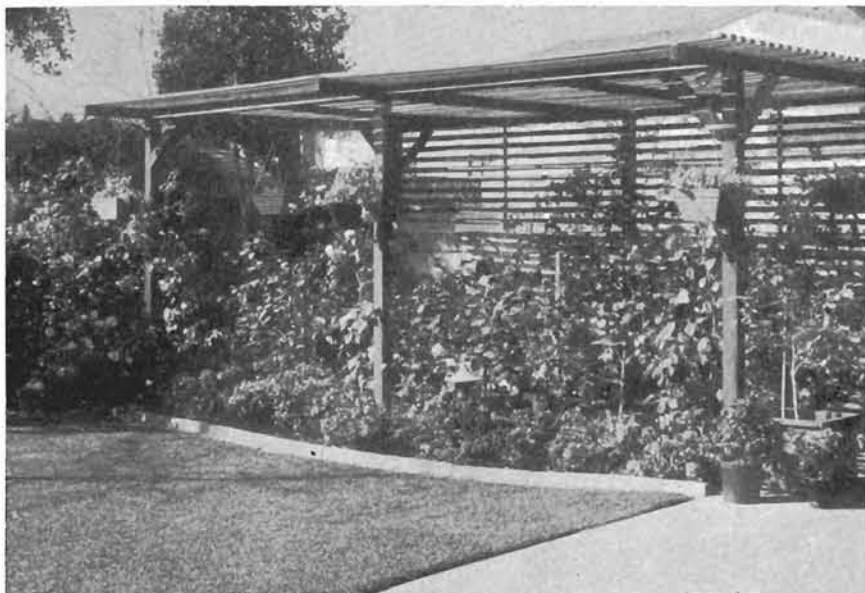
The long line of the house, roofed with cedarwood shingles, runs across the middle line of the property, leaving a considerable open area in front with a dichondra lawn, shade trees and specimen camellias. Indica azaleas and other shrubs and plants complement the camellias and provide colour and ground cover.

Camellia japonica, left to its own devices, will grow into very large size indeed and one has somehow to reconcile the desire to grow all the

best varieties with the amount of space which is available. Nowhere did we see a better solution than that produced by Bill Goertz in this very attractive and peaceful garden. Two things had been done—both equally important. The camellias were planted in exactly the right places in relation to the house, to each other and the other plants in the garden. Then they were pruned and trained so that each displayed itself to the best advantage and maintained the size which was required.

The garden at the back of the house contains the larger part of the camellia collection and exhibits the same careful design and maintenance. Features are a permanent garden house with open front, a barbecue in a brick chimney and the special refrigerator which holds camellia flowers in the winter and spring and cool drinks in the summer! The shadehouse (Fig. 2) has been built so that it is part of the garden layout and used to shelter and display a large

(Continued on next page)



Bill Goertz' shadehouse is part of his garden layout.

number of container-grown camellias, with indica azaleas used to conceal containers and add colour to the display.

The third garden, also in San Marino, is the property of Ned Metcalf, who has visited New Zealand and attended one of our early conferences. This is a very large garden by city standards and includes a wide range of mature trees and shrubs of many different genera, besides a large collection of camellias.

Along the front of the property there is a dwarf stone wall over which a line of *C. sasanqua*, Showa-no-sakae, Leslie Ann and others, have been trained to give a ground cover effect and placed so that they weep over the edge of the wall. Behind them is a shrubbery of *Camellia*

japonica and, above, trees which provide some shade. This is a most effective and attractive arrangement and the training of the sasanquas has been done so skilfully that they look completely natural (Fig. 3).

This garden is laid out in separate areas connected by shady paths and includes a large formal rose garden with brick paths, and brick and stone walls which support beds of azaleas and camellias.

Many magnolias, azaleas, a fine collection of orchids, and even some New Zealand flowering tea-trees add interest and variety.

There are many mature plants of *C. reticulata* and it was interesting to see, once again, that plants with plenty of light looked much more

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Net Metcalf has trailing sasanquas under trees.

CAMELLIAS ARE A YEAR 'ROUND HOBBY

Willard F. Goertz
San Marino, California

Outline of a talk that Mr. Goertz made during the 1968-1969 camellia season to members of the Pomona Valley and the Sacramento Camellia Societies

When a camellia hobbyist is asked to speak or write about what the hobby means to him he usually agrees because most everyone who has a hobby likes to talk about it and share his experiences. Since I am not a horticulturist or an expert in any sense of the word I am not qualified to tell others how camellias should be grown but only to discuss what I have had fairly good luck with.

In 1949, when I did not know a camellia from a rose, we planted six small "shrubs" north of our neighbor's garage and a year later my late friend and a former SCCS Director, Cliff Johnson, told me that these were camellia seedlings that should be grafted to good known varieties. He agreed to do this, and after seeing the results a few months later I did several grafts myself, and when one of these actually was successful I was hooked! The next several years we planted a dozen more camellias and my friend Cliff induced me to take several blooms to the Southern California Camellia Society camellia show at the San Marino Womens Club House — and what a thrill it was when one of them won a second place ribbon.

Our collection now numbers approximately 250 plants — far too many for the space available — but yet each year we purchase a few new varieties and graft many more ("you gotta have") known and unknown names. It's always a pleasure to give a plant or two to someone who will take care of them. Then too, some of the older ones which fail to rate the "Top Fifty" list, make good understock for grafting the spectacular new ones. Change is the normal order of all things, and this includes one's favorite camellia varieties.

I consider myself very lucky to have adopted the camellia hobby as it has so many benefits. One can keep as busy as desired even with a very small area. There is always something to do and old and new friends to meet, exchange scions, exchange ideas and compare notes on results. There are meetings and shows where we learn whether or not the results of our culture efforts turn out as hoped, and what results our fellow hobbyists have achieved. Through it all it's the people who have this common hobby who make it fun. Milo Rowell said it well recently at a meeting of Southern California Camellia Society, that he had "never met a camellia enthusiast who was not a nice person".

We have been very fortunate to have met many people from other parts of the world where they also grow camellias. Everywhere they do things a bit differently, grow different varieties, grow them for different reasons, use various techniques and culture procedures, but everywhere the camellia people are the same: friendly! Just take a trip to New Zealand and Australia and let them know you grow camellias and the hobbyists there will roll out the reddest carpet you ever saw. By the same token, one of my greatest pleasures is to have visitors come see our garden.

Since culture was to be included in this discussion I'll start out by saying that you need not work hard to achieve very satisfactory results, yet it holds that the more you put into the hobby the greater the pleasure and satisfaction. My camellia year begins the latter part of March (when the California shows are over) with prun-

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ing. Many articles have been written on this subject and I still believe that it is one of the most important phases of camellia culture. A plant should be thinned out and shaped to be healthy and present a graceful appearance. All surplus and weak inside growth, and criss-crossing branches, should be removed to allow for proper bloom development next season. Beginning in July and for several months pruning should be repeated along with the removal of surplus buds. The growth taken off during the summer is usually new and tender growth which is coming where not wanted and may usually be pinched off with the fingers. This is a continuing process, and the more effectively accomplished now the less cutting to be done next March.

Every camellia grower has his pet fertilizing program and no one can say that any one method is perfect. I have had good success with five parts cottonseed meal to one part hoof and horn and one half part blood-meal. This is applied generously on all plants in one gallon containers and larger, in early April and early June. Then in August I use only cottonseed meal and only on container plants. (I gave up the August feeding on large plants in the ground as a result of the great amount of pruning I was doing — these plants just grow too fast!) Ground fir bark is put down as a mulch with the April

feeding — about a half inch layer.

In our case, spraying with Malathion for aphids and chewers in May and again in June or July usually is all that is required. A fine water spray will also help wash off aphids and during the hotter months, preferably in the evenings, will cool off the leaves and give them a clean healthy appearance.

Many camellia people have learned recently (some the hard way, including myself!) that too much water causes root rot, especially when drainage is a problem. I do not think that watering on a time schedule such as once, twice or three times a week is good for your plants. To do it properly, the soil should actually be checked by feeling for moisture, and then water just before the plant actually gets dry. This is of course more critical in the case of container culture than for larger plants in the ground.

Since there is less camellia activity in the summer time, I do most of my container transplanting then. Our plants are moved from one gallon to two gallon, to four gallon plastic pots and after that, to sixteen inch redwood tubs — or into the ground if we can find the space. Soil mix which has done well in our garden consists of three parts of very sandy soil to two parts of humous which consists of approximately one third peat and two thirds ground bark. Using tap-

RELEASING

'Carnival Queen' (Japonica)

'Rose Parade' ('Donation' X Japonica)

'Silver Waves' (Japonica)

'Highlight' ('Purple Gown' X Saluenensis)

'Valentine Day' ('Crimson Robe' X 'Tiffany')

'Forty Niner' ('Butterfly Wings' X 'Indian Summer')

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ered pots allows you to lift out the plant for root inspection. I believe that many of us probably move our plants up too fast and when you see Harvey Short's garden in La Mesa you would agree. He has beautiful healthy plants eight feet high with four inch diameter stems growing in fourteen inch containers. The healthiest plants have the healthiest roots and these dry out faster than the average, so while watering, watch for any plants which appear to be starting to wilt. Set these aside where they may receive special watering attention until they can all be moved up one container size. Transplanting large plants growing in the ground may be done most safely in December and January on a cool day and along with severe pruning.

Now comes the time to think about the end result. Gibberellic acid was considered "a bad word" when it was first being used on camellias, but now is quite universally used and approved. I like to use it mainly to lengthen out the blooming season by forcing the blooms to come out earlier. It is great satisfaction to have beautiful blooms on 'Purity', 'Blood of China', 'Elena Nobile' and other late varieties every month from November to April. We have a screening trellis with three plants of an old variety, 'Marianna Gaete', and normally we would see no flowers until March and April, all blooms appearing at once, which would then wilt and shatter in the warm Spring weather. Now I treat these buds with gib, about fifteen or twenty a week beginning in early September, and we have a beautiful constantly blooming espalier through four or five months. Some of our older plants such as 'Prince Eugene Napoleon', 'Purity' and others have had practically every bud treated with gib for the past three or four years and I can see no adverse effect on the plants whatsoever. When cutting the blooms, or in later pruning, I always cut back

of the gibbed terminal — two or three leaves — to get rid of all gib affected stems. Gib treatment will increase the size of blooms of some varieties much more than others, but the early blooming advantage works with all varieties.

The real fun time is now arriving — when the buds begin showing color. It's always a thrill each year to find those first blooms, and now with the shows coming on we will see if our efforts have been rewarded. Several weeks before the show it's advantageous to pin back the leaves, with wooden clothes pins, from those prospective blooms which are showing color. This precludes any possibility of spoiling the perfection of the bloom due to damage from rubbing on other leaves. Some of the potential ribbon winners will be at their peak several days before show time so it is real a advantage to have a refrigerator available — set at 40 degrees — and plastic boxes to keep the blooms in an air tight humid atmosphere after the latter have been cut in the cool of the morning. Our boxes are 15½" x 11" x 4¾" each of which holds five large or six medium size blooms. Plastic cups, 1¾" diameter by 7/8" high, are placed in the box (shredded paper level with the top of the cups) and filled with "Floralife", a commercial cut flower preservative which may be purchased at a garden supply or florist shop and is quite inexpensive as it is mixed one teaspoon per quart of water. Before putting the blooms in the box it is well to spray around the petals and underneath using the same mixture in a plastic spray bottle. I do not try to preserve blooms more than one week although experiments indicate some will still be fresh looking after 10-12 days. Some varieties, of course, hold better than others. Blooms may be transported to the show tables in these same boxes, or may first be transferred to heavy cardboard boxes,

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CAMELLIA CULTURE

The following two articles from Sacramento and the East Bay continue the series that we inaugurated in the October 1969 issue of CAMELLIA REVIEW.—Editor

Harold R. Studd, Sacramento

As nearly all of my camellias are in pots, I have had occasion to experiment widely with potting mixes. My first mixes were half garden soil and half peat moss with a little decomposed horse manure added. My camellias did quite well with this mix. As I accumulated more plants and had to establish a watering schedule, I found that upon re-potting to larger pots, the new pots did not need watering as often as the older ones. As a result, I lost some plants from over-watering. I am very particular on watering, making sure I never let my plants get too dry. During show time, I water the night before the show, even though they may already be wet.

Until the last two years, I had always used one half soil, and varied amounts of peat moss and vita-peat and some steer manure for the other half. I tried some fine sandy loam soil, and found it had a tendency to tighten the mix and slow down drainage. My own garden soil seemed to stay granular and allow better drainage. I will say, however, that the plants that survive the first year of

my mixes, certainly produced after that! I have never used any sand in my mixes, I suppose mainly because I didn't feel it was important enough to go get some. It seems to me that it would only make the pot heavier. The mix I'm using now is $\frac{1}{3}$ my own garden soil and $\frac{2}{3}$ fine fir bark, with less than a quarter cup of cottonseed meal per pot. I'm getting good uniform results from this mix. I find I can re-pot a plant with very few roots showing on the outside, with good results. My largest tubs are 16" at the top and 14" deep. They are tapered and the sides are identical panels, bolted together. To check the root systems, I just remove the bolts and remove the panels. On one plant the roots were matted against the outside and the plant was deteriorating, so I cut a little over an inch of the roots off on all four sides and packed with new mix. I also top pruned quite heavily. Now the plant is real luxuriant again. I fertilize in April, June, September, and December. However, I try not to fertilize too heavily, about a quarter cup for one and two gallon containers, $\frac{3}{4}$ cup in five gallon and up to 2 cups in tubs, if the plant is 5 feet tall and wide. I am now using straight cottonseed meal, with about one part dry — 0-10-10 to 10 parts cottonseed meal at the September and

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December feedings. I've tried all kinds of fertilizers in the past and conclude that cottonseed meal is well balanced and easy to use without burning, for camellias. It breaks down relatively slowly and gives a prolonged feeding.

On the humorous side, I mentioned having tried a lot of fertilizers and during the '66-'67 season, I had parts of bags of fertilizer left, bloodmeal, Hoof & Horn, RCA, cottonseed meal, bone meal, 0-10-10, and you name it! I decided to get rid of them and mixed the whole works together. That's what I used that year and believe it or not, I won eleven trophies in six shows, including Flower of the Show, twice, and Best Reticulata, once. I still think it was a perfect season for camellias, here in Sacramento, rather than the fertilizer. Who knows? Any way, many asked me what I used for fertilizer, and I had no idea what that mess contained!

I prune my camellias very little—just enough to give room for flowers. Actually I think I should prune more, but I can't resist getting as much plant as possible, as soon as possible. I'm certainly no authority on pruning.

I have definite thoughts on shading camellias in the Sacramento area. Some of my best plants are in full shade the year around. They have exceptionally luxuriant foliage and blooms. My lath house has 2¾" wide lath, spaced 1½" apart. So I have more than one half shade there. I find that I seem to have less leaf burn than plants subjected to more sun.

One thought in closing—be patient with your camellias—the winningest plant I have, produced only bull-nosed flowers for three years. I threatened to throw it away—then all of a sudden the blooms opened beautifully, and won me trophies in every class of its variety of Japonica.

/ /

Harvey L. Morton, Lafayette

Immediately after the show season, we prune out unwanted growth and

fertilize with our standard fertilizer mix. This consists of the usual three parts cottonseed meal to one part hoof and horn. The amount used depends on the size of the plant and ranges from one cup to one tablespoon. This mix is applied four times per year—end of March, June, September, and January. On occasion we have used 0-10-10 type liquids in January, but no noticeable improvement in bloom quality was noted.

Our available time does not permit us to do all necessary transplanting during the dormant season, so this activity is spread throughout the year with no observable difficulty. We use an extremely loose mix of ⅔ fir bark to ⅓ compost made from ground up weeds. All new plants are bare rooted (any time of year) and planted in this mix. We have never lost a plant from this operation.

(Continued on page 18)

CAMELLIA SEEDS 1969

JAPONICA SEEDS

Mixed seeds, including a small percentage of seeds from seedling trees in the Huntington Botanical Gardens.

\$3.75 per 100 (minimum order)

Note: There will be a limited quantity of seeds of 'Snow Bell', a white camellia. These will be supplied on request as long as they last.

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CALIFORNIA CAMELLIA SHOW SCHEDULE 1969 - 1970 SEASON

Date	Sponsor	Location
Dec. 6-7, 1969	Los Angeles Camellia Council	Hospitality House, Descanso Gardens, La Canada
Feb. 14-15, 1970	Peninsula Camellia Society	Veterans Memorial Bldg., 1455 Madison Ave., Redwood City
Feb. 14-15, 1970	Pomona Valley Camellia Society	Pomona First Federal Savings & Loan Assn. 399 N. Garey Ave., Pomona
Feb. 21-22, 1970	Delta Camellia Society	Pittsburg High School, Pittsburg
Feb. 21-22, 1970	San Diego Camellia Society	Conference Bldg., Balboa Park, San Diego
Feb. 21-22, 1970	Temple City Camellia Society	L.A. County Arboretum Lecture Hall, Arcadia
Feb. 21-22, 1970	Santa Clara Co. Camellia Society	Student Union Bldg., San Jose City College, San Jose
Feb. 28-Mar. 1, 1970	Los Angeles Camellia Council	Descanso Gardens La Canada
Mar. 7-8, 1970	Camellia Society of Sacramento	Memorial Auditorium 15th & J Sts., Sacramento
Mar. 7-8, 1970	Camellia Society of Kern County	Bakersfield High School Cafeteria, Bakersfield
Mar. 8, 1970	Central California Camellia Society	Cafeteria, McLane High School, Fresno
Mar. 14-15, 1970	Northern California Camellia Society	Sun Valley Shopping Center, Concord
Mar. 21-22, 1970	Camellia Society of Modesto	Palm Court of E. & J. Gallo Administration Bldg., Modesto
Mar. 28-29, 1970	Sonoma County Camellia Society	Santa Rosa Junior College, Santa Rosa

NEW-- BALI HA'I DAWN -- BALI HA'I PINK -- BLUEBLOOD
CLARENCE HEARN -- ELLIE RUBENSOHN -- FANDANGO
FRANCES KRYGER -- HOPKIN'S PINK DAWN -- HOPKIN'S ROSE PINK
LILA NAFF -- LULU BELLE -- MARGARET DAVIS -- RED, RED ROSE
REG RAGLAND SUPREME -- SONG OF PARIS -- AND MANY OTHERS

McCASKILL GARDENS

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PASADENA, CALIFORNIA

JAPANESE CAMELLIA ADVENTURE

Jack E. Craig

headed by Mr. Minoru Sato and the Bekoya Camellia Society, led by Mr. Nagata, nurseryman and a real authority on Japanese camellias. Aside from many interesting private gardens in the area, the camellia collection of Higashiyama Botanical Garden is one of the most complete in Japan. Behind a large ancient straw thatched farm house, the hills and valleys are covered with thousands of camellia specimens.

Kyoto, Japan's ancient feudal capital, contains most of the famous gardens in Japan. Its over 2,000 shrines and temples contain many beautiful gardens and some of the most revered camellia specimens.

One such famous specimen is the fire-colored double flowering camellia of "Tsubaki Dera," the "Camellia Temple." This ancient camellia rusticana specimen which is only about 10 ft. tall, has a spread of 40 ft. Having no problem with camellia flower blight, the poetic Japanese appreciate its habit of dropping multicolored petals one by one on the moss covered ground. Most of the famous specimens are within private temples and monasteries not open to the public. Daitokuji Temple, home of Japan's tea ceremony, has a lion's share of ancient camellia specimens. The famous garden of raked sand within the headquarter temple boasts the famous "Jikko" and "Gakko" or "Sun-Shine" and "Moon-Light" camellias, camellia hedges planted by Shuko and fine old wabisuke specimens. The wabisuke camellias, a strain of *C. japonica* with tiny flowers seldom over 2" across, are said to have gotten their name from a Mr. Wabisuke who produced them in ancient times. No camellias are revered more highly by the Japanese tea cult. Among other famous old specimens are the white

(Continued on next page)

Next March, camellia fanciers and horticulturalists are being offered a unique opportunity to visit private nurseries, gardens and camellia collections in Japan. In many cases, members of the tour group will be the first Americans to see these rare camellias in their native Japanese environment. Group leader will be American Jack Craig, now a resident of Japan. Mr. Craig is an artist, designer and horticulturalist himself and is a member of the Japan and American Camellia Societies. The tour, which has been developed by Eurpac Travel Service of Mill Valley, California, will leave San Francisco on March 14, and will be met in Tokyo by Mr. Craig on March 15. —Ed.

Japan, being the home of *Camellia japonica*, is a would be mecca for camellia enthusiasts all over the world if it were not for the language barrier. The fascination is no less for me and for my wife, Ginko, who are permanent residents of Japan as well as avid camellia enthusiasts. I have taken advantage of my years here and of my knowledge of the language to meet as many Japanese camellia enthusiasts as possible all over Japan.

In the Tokyo area camellia interest centers around the Japan Camellia Society, headed by kind and knowledgeable Mr. Kiyoshi Ishikawa whose articles have appeared in American Camellia Society year books. Near by, Kamakura with its extensive camellia collection at Kamakura Yama is also of special interest as is a visit to the volcanic island of Oshima near the entrance to Tokyo Bay. Oshima's smoking Mt. Mihara is a continuation of the volcanic chain of which Mt. Fuji is a part. This camellia famous island is known for its extensive wild colonies of *Camellia japonica*. Here oil is pressed from camellia seeds and fine grade charcoal is made from camellia wood. Girls in folk costume sell bracelets, rings and other jewelry fashioned from polished and carved camellia seeds.

Negoya is the home of two societies, the Nakana Camellia Society

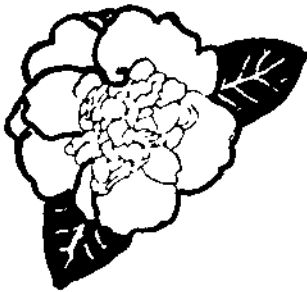
wabisukes of Ryoanji, Japan's most famous garden. An old monk at the temple explained to us that the specimens were brought from Korea several hundred years ago by returning monks. The ancient garden of Shisendo, the "Retreat of Hermit Poets," has intimate gardens featuring the largest specimen of white sasanqua that I have ever seen; a large tree with a massive trunk two feet in diameter.

An interesting side trip may be made to the Tada Shrine in Mino, famous for its ancient specimen of "To Tsubaki" or *Camellia reticulata*. This 300-year old specimen is the one mentioned on page 179 of *Camellia Culture*. It is of a variety unknown to Western horticulture. Reticulatas are better adapted to our relatively cold climate and are much more generally grown here than American authorities suspect.

The island of Shikoku is known for its "Ringo Tsubaki" or "Apple Camellias," a form of *Camellia japonica*

with fruit as large as small apples. Mr. Koyama and members of the Kagawa Camellia Society, which he heads, are making advances in the improvement of these camellias which occur wild in their immediate area. Takamatsu's Ritsurin Park, one of Japan's three most beautiful landscape gardens, boasts fine ancient camellia specimens as does the Konpira Shrine.

Kumamoto, on the Southern island of Kyushu, is home of Higo camellias and of the Higo Camellia Society headed by Mr. Taizo Hiratsuka. Higos are mostly five-petaled, single camellias with "ume-jin" or "plum blossom centers." Instead of the stamens remaining in a cupped form, they open out into a flat pattern like the stamens of a plum blossom. In the Kumamoto area they are popularly grown as bonsai subjects, grafted on knarled *C. japonica* trunks brought down from the mountains. Bicolors are most revered and nothing could



CAMELLIA TOUR OF JAPAN

THIS THREE WEEK GRAND TOUR BEGINS IN TOKYO ON MARCH 15TH LED BY HORTICULTURALIST-INTERPRETER JACK CRAIG ASSISTED BY A LICENSED JAPAN TRAVEL BUREAU GUIDE. JAPAN'S CAMELLIA SOCIETIES WELCOME YOU TO SEE THE CREAM OF THEIR GARDENS. SEE:

- Wild colonies of *Camellia japonica* on the volcanic island of Oshima.
- The beautiful Higo camellias of Kumamoto.
- Gorgeous snow camellias in picturesque settings.
- Rare reticulatas and other varieties unknown to Western horticulture.

BECAUSE OF THE CONGESTION DUE TO JAPAN'S EXPO 70, ACCOMMODATIONS MUST BE MADE AS SOON AS POSSIBLE. FOR PARTICULARS WRITE IMMEDIATELY TO:

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316 MILLER AVENUE • MILL VALLEY, CALIF. 94941

be more frankly appealing than these bright, wide-eyed blossoms unknown to most American enthusiasts. In near-by Kurume, home of the famous Kurume azaleas, our friend Mr. Tamura and other members of Kurume Horticultural Research Station are engaged in intensive hybridization programs to improve both camellias and azaleas. Aside from seedling plots, the large gardens planted with many fine specimens present a sight long to be remembered.

Niigata, on the Japan Sea is the center for *Camellia rusticana* culture. Here the Snow Camellia Society is led by the knowledgeable authority, Mr. Mugishima. Snow camellias are so called because they actually bloom in the snow. It is necessary to visit this region late in the camellia season to see them in bloom and even then there is a possibility of light, quick melting snow. About 1,500 varieties of snow camellias are grown in the Niigata area, only a hand-full of which are known to Western horticulture. Many are large and voluptuous enough to be in the running even with late, Western produced cultivars. Perhaps the most memorable sight which Niigata offers is the many aged camellia specimens growing around ancient country farm houses. Some of them are prostrate, having gone down under the weight of heavy snows during their formative years. The yearly weighting of heavy snow has formed Niigata's snow camellias into interesting and picturesque shapes.

With the kind of cooperation of every major camellia society in Japan, we leave Tokyo next March 15th with a group of American camellia enthusiasts for a grand tour covering all of these features and others. On behalf of Japan's camellia societies, I take pleasure in welcoming you to Japan. Japan's camellia carpet has never been rolled out so royally. Anyone interested in joining us for an adventure-packed, three-week camel-

lia tour of Japan, please contact Eurpac Travel of Mill Valley, California, who are making the travel arrangements.

CALIF. CAMELLIA (*Cont.*)

prosperous than those in shade. Under the conditions here plants such as Crimson Robe, Tali Queen and Purple Gown had made much more open and rangy growth than we are accustomed to in New Zealand. The "bottleneck" from inadequate japonica stock was visible in many cases—we have now seen this occurring to a serious degree in every country where reticulatas are cleft grafted on japonica stock and one wonders whether the Chinese preference for approach grafting may arise from this.

Ned Metcalf has particular interest in reticulatas and in the contrasting *C. japonica* miniatures and there are several large shadehouses which contain extensive collections of seedlings of both of them. Among the reticulata seedlings we noticed a very nice rose form seedling of Buddha which was a good, dark red colour. There were several others that show promise and may be heard more of later.

Fir bark is used in large quantities for mulch and ground cover and azaleas are grown in pure fir bark with fertilisers added. It is also used as part of the soil mix for container-grown camellias. Most Californian gardens are fitted with sprinkler systems but this one is equipped with machinery that permits soluble fertilisers to be applied through the sprinkler system at predetermined strength. Lawns are dichondra which saves a large amount of labour.

In later articles we hope to give details of the camellia shows and many other gardens we visited, including the famous Huntington and Descanso Botanical Gardens.

(To be continued)

HOW TO ENJOY WINTER CAMELLIAS IN THE SUMMER TIME

Wilber W. Foss
San Marino, California

Over the past few years we had considered a trip to Australia and New Zealand . . . sometime . . . But after Harold Dryden's trip there and Tom Durrant's trip here we started serious planning. Our tour agent supplied us with a most attractive itinerary that included Japan, Hong Kong, Malasia, Thailand, and Australia and New Zealand; a short stop in Tahiti and home.

We set the date late in the summer so we would hit the wintertime down-under and their camellia season and shows. Unfortunately the show in Sydney had been cancelled for this year only but we were able to see many gardens and flowers anyway.

Due to previous correspondence concerning our arrival, our time was planned for us by members of the camellia society or the board so that we could see the most in the shortest possible time. And a wonderful job they did.

The first camellias that we saw were a trayful of beautiful 'Tomorrow' that had been put in our room in Sydney by someone who loved the flowers as we do. A very thoughtful welcome indeed. After a very short rest after our arrival, we began to see gardens and the country. I think that the one thing that struck us first about the gardens everywhere was that, with one or two exceptions, most people gardened on uneven land; either up the back or down the hill. There was never any attempt to change the original or natural slope of the ground. It was merely a matter of clearing off a spot of natural brush, setting a plant in place, a few stones or old fern stumps to hold the dirt and then stand back and watch it grow. We were told that the old fern trunks never rotted, they were rough

enough so they held well, one on top of the other and they looked natural. Having driven through the countryside, we never questioned where they came from, as part of the natural bush that covers the virgin hills are tree ferns ten to twenty feet high. After these are set in place in the garden it is only a short time until they are green with moss and sink unobtrusively into the surrounding landscape.

We saw, at the moment called Blumenthal's miniature, a two year graft of a very tiny sasanqua, that had been grown from seed and then grafted. It was very healthy and slow growing and was only about 2 inches high with leaves about $\frac{1}{2}$ inches long. It had tiny blooms and the tiniest of leaves ever. This was really something to see and you should watch for it later.

A most enjoyable rainy afternoon was spent with the E. G. Waterhouses. They have tremendous camellia plants and are especially interesting people. Mrs. Waterhouse was celebrating her 85th birthday and both showed great interest in people in America and their camellias.

The Waterhouses were also most enthused about the new Bi-Centenary Camellia Garden that had been dedicated to him by the members of the Southern Branch of the New South Wales Camellia Society. He had the honor of speaking at the dedication ceremonies. The location of this new garden is most pleasing, overlooking the bay with a natural stream running through. The Society had been working on the garden for only about 6 weeks and already there were walks and stones and plants in place. We have heard since we got home that they now have 500 varieties planted

along with many azaleas. They hope to have all plants donated and expect it to be the first and finest National Camellia Garden in Australia. I had the honor of planting a 'Guilio Nuccio' plant on behalf of the Southern California Camellia Society. Mrs. Foss helped to plant another donated plant near by. The enthusiasm, fun and work combined in planting the garden was the greatest I have ever seen within a group of people and the results will soon show.

Driving through the Australian countryside was certainly an experience we will never forget. The native brush is so green and thick, and the wild flowers crowd the roads and highways.

It was our privilege and pleasure to be able to take to Margaret Davis the William Hertrich Award that she had won for the sport flower of her name. They were most surprised and pleased and showed us their unique garden that is built on an especially steep slope that drops down to the bay. She gardens mostly in pots and has written a book about gardening in pots and highly recommends it for your reading. She had a very interesting glasshouse that was octagon in shape and all shelves revolved ever so slowly so that all plants get even light exposure all day. This solved one of her problems resulting from lack of space and light.

Melbourne was another adventure in beauty, friendship and gardens. Every garden and nursery was more outstanding than the one before. The McNinn's nursery reminded us of Nuccio's and they made us feel right at home.

All sightseeing was not just camellias; seeing Melbourne from the top of the highest hill at night was something to behold; clear, clean air does something.

Our next stop was Auckland, New Zealand where we were met by Tom and Bettie Durrant. We drove south about 100 miles to Tirau and this

took us through some of the most scenic country that we had ever seen. Beautiful rolling, green countryside that looked like a beautifully kept golf course, except that there were sheep and lambs sprinkled over the pastures. In this country of clean air, ample rain and good soil, the farmers have the time to be camellia hobbyists. It is merely a matter of planting and let grow. Seldom do they have to water, and their fertilizing is at a minimum compared to ours.

At Tom Durrant's back door I walked *under* a camellia tree 25 feet high of 'Phyl Doaks' in full bloom; by the front window was reticulata 'Pagoda' as high as the eaves, in solid color, flowers 6 inches across. In many more gardens that we visited we saw plants and flowers equally as large.

A short flight took us to Wellington and the flight over the green meadows was like nothing we had ever seen before. In this area of New Zealand around Wellington, it would be difficult to decide on the most beautiful or interesting garden. Each showed a character of the gardener. Some gardens zigzagged up a hill in the rear, some were nestled in a hollow place down in front of the home. All seemed to clear away just enough of the natural bush as needed, leaving the fern trees and a gum tree or two and then begin to plant.

A lovely drive of 200 miles brought us to the town of New Plymouth where the New Zealand National Camellia Conference was to be held. This society has 1475 paid members. All those who are local members certainly gave their total support to the convention. The Show was much like ours here. It was held in the YMCA gym which was a fairly new building with plenty of room for displays, flower tables, and commercial gardens. Around the room the ladies had arrangements with tables of different themes that were quite lovely. The

(Continued on next page)

lighting was excellent and all displays showed off to their best advantage. This building was only a couple of short blocks from the main part of town and within easy access to most things. The best flower of the show was 'Waterlily'; a beautiful specimen.

The first evening meeting of their convention was most memorable. Mr. Shayle-George, their president, was a most interesting master of ceremony. It was at this meeting that I had the privilege of presenting to Les Jury, a plaque emblematic of the Edwards Metcalf Award from the Southern California Camellia Society for his hybrid 'Elsie Jury'. Their second meeting was the following evening and it was at this gathering that I had the pleasure of giving a talk and showing some slides. An invitation was given to all to arrive at the convention hall the next morning at 9:00 to visit gardens. And would you believe that 7 bus loads of camellia fans were on hand at the stated hour, bright and eager and ready to tour!

The itinerary and the gardens selected provided us and all the others with one of the most enjoyable days that we had. We had time to talk leisurely to many people and make lots of new friends, besides seeing the best of nature's beauty. Space does not permit a description of each place visited.

Many of these camellia people are talking enthusiastically of attending our ACS convention in Los Angeles in 1971 and you can be sure that we assured them a return of their great hospitality that they showed us and others who have had the opportunity of visiting downunder.

CAMELLIA CULTURE (Cont.)

Watering during the summer and fall particularly, is often and heavy. An automatic sprinkling system is supplemented by hose application as needed. All plants are in pots and tubs, none in the ground.

As soon as flower buds are seen,

disbudding starts and continues as time permits. Our goal is one bud, protected as possible, per terminal. Even miniatures are disbudded. Experience shows that although the flowers might be too large in size, we never get a show quality bloom from multiple buds.

Our major problem at show time is heavy wind. On occasion all blooms have been completely ruined. With good weather a week before any show our percentage of blue ribbon wins increases gratifyingly. We are now considering construction of wind screens to minimize this storm damage.

Probably the most work of all is cleaning up each and every petal possible that falls to the ground. This activity has eliminated most petal blight and has dictated that many varieties with shattering flowers, such as 'C. M. Hovey', be eliminated from our collection.

Since no show in Northern California has a truly competitive Gib Division, we do not gib any blooms whatsoever. This eliminates any possibility of entry in the wrong division by mistake.

We expect our interest in camellias to eventually change from competitive exhibiting to seedling exhibition. At present we grow about 200 new seedlings from named and hand-crossed hybrid seeds. Very few non-hybrid seeds are grown. Since this is only our sixth year in camellias, we are just now beginning to see our first progeny.

Colonel C. M. Gale

Old time members of the Southern California Camellia Society will want to know that Colonel C. M. Gale died last August. Colonel Gale was the Society's Secretary-Treasurer from 1948 to 1958. He was an honorary life member of the Society.

EARLY SHOW WILL OPEN CALIFORNIA SEASON

Caryll W. Pitkin, Show Chairman

To a camellia grower there is nothing quite like the "First Show of the Season." You meet old friends not seen since last season and "oh" and "ah" with them over all the beautiful flowers. On the side you are trying to see how your blooms compare with those of the best growers in the area.

December 6 and 7 the Los Angeles Camellia Council will hold its annual Early Show at the Hospitality House in Descanso Gardens. While most of the blooms exhibited will be gibbed there will also be many non-gibbed if the weather man is good to us.

Copies of the show schedule and rules may be obtained by writing Ernie Pieri, Registration Chairman, at 601 East Elm Street, San Gabriel 91775.

The changes from last year are minor and should cause no confusion. However, there are a few things to remember. One of the points to watch is that all Reticulata and Hybrids with Reticulata parentage go in the same division. This is a logical change and will probably become a permanent feature of most shows.

While all of the Japonica entries (with the exception of Boutonnieres) will continue to be separated into gibbed and non-gibbed divisions, Reticulatas will be in an open division. The thinking behind this is that there certainly wouldn't be any Reticulatas in bloom at this time of the year unless they had been treated so it would be useless to have a separate division for non-gibbed Reticulatas. The Boutonnieres will also be open.

Another feature which we believe will prove to be popular is the new Award of Excellence. This will be given to the exhibitor having the greatest number of points for blooms that are on the Court of Honor. All flowers on the Honor Table will carry

points according to the following schedule:

Best of Class Award	5 points
Runner-up Best of	
Class Award	3 points
Honor Table bloom	1 point

Dual Awards will be given in the event of a tie. Application of this schedule to prior shows, both the Early and Spring shows, produced no ties. The Directors of the Los Angeles Camellia Council agreed at the Council's October 23rd meeting that this new Award should eliminate the objections to the Sweepstakes Award, which is based to a large extent on quantity of entries, and provide recognition to the exhibitor who produces blooms of sufficient quality that they reach the Honor Table.

Plan to be at the Hospitality House on December 6 with all the flowers you can bring. If you just can't decide which of two blooms of a variety is the better, bring them both. Two entries of a variety will be permitted in all Classes. Registration will open at 7 A.M. and must be completed by 10 A.M. Judging under the direction of Wilkins Garner will begin at 11 A.M.

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ACS Annual Convention at Orlando

The 1970 A. C. S. Annual Camellia Convention will be held in Orlando, Florida on Thursday, Friday and Saturday, January 8-9-10, 1970. Convention Headquarters will be at the Statler Hilton Hotel, 3200 W. Colonial Drive, Telephone 295-5270 (Area Code 305).

Thursday will be devoted to registrations and the usual renewal of acquaintance with people who have not been seen since the last convention. The A. C. S. Governing Board will meet at 2 P.M. Dinner at 7 P.M. will be "on your own". At 8:30 P.M. Dr. Mathis and Joe Pyron will show pictures and given an informative talk.

Friday will be devoted to an all day Cape tour in air conditioned busses which will start at the Statler Hilton Hotel. There will be guides on all busses, also hosts or hostesses. Box lunches will be served. It is planned that the busses will return to the hotel by 4 P.M. There will be a social hour at 6:30 P.M. and a buffet supper at the hotel at 7:30 P.M.

Saturday morning there will be a tour of gardens and a scenic tour of the Orlando area, including visits to the Harry Leu, the Gurney and the Robert Anderson gardens, where coffee will be served. There will be a pre-view of the camellia show following completion of judging. The show will be opened to the public at 3 P.M. The remainder of the afternoon is free for shopping and other activities, both in Orlando and Winter Park. There will be a social hour at 7 P.M. at the Orlando Country Club followed by the Banquet at 8 P.M.

No formal plans have been made for Sunday the 11th,

YEAR 'ROUND HOBBY (Cont.)

some of which are available at print shops — a good size is 20" x 40" x 5" high. I put about 1½" of loose shredded paper in such a box and then cover this with a very wet sheet, and the blooms placed on this will be well cushioned and humidified for the trip to the show. Winning a major trophy is a real thrill, not for the trophy itself, but for the satisfaction of knowing that your efforts have been rewarded by judges who know camellia standards of perfection.

The foregoing lists the basic procedures of growing and showing camellias, but there are many additional interesting activities available for camellia fun. The quickest way for beginners to "get their feet wet" is to visit the gardens of other hobbyists, ask for scions during grafting season and improve some of your old varieties by grafting on the new top varieties that have proved themselves. Start up a correspondence and scion exchange with people you meet at the shows — or possibly in other parts of the world. For a few dollars you can join the New Zealand or the Australian camellia societies and receive their interesting publications and then write to someone there whose article you have read. We have had visits and letters from complete strangers who have seen our name with a published article and some of these have developed into interesting friendships.

To further expand your fun with camellias, plant some seeds next November and in a few years watch for the first blooms; probably the most exciting event would be some day to find an award winning new variety (I'm still looking for my first one!).

If you like to grow things, if you like to have an outside interest to keep your mind off your everyday problems, and if you like people — you can have a great time with the camellia hobby.

BREEDING NEW CAMELLIAS

T. J. Savige

Canterbury, Victoria

Reprinted from *Camellia News*, the official publication of the
Australia Camellia Research Society

One of the most engrossing aspects of horticulture for the amateur is raising new plants from seed. Each seedling is an individual and, although many botanical species of plants breed so true to type that individual seedling differences are almost nondiscernible, most horticultural plant material, having arisen from selected, isolated variants over many years — centuries in some cases — and perhaps modified by earlier infusions of other species, has a considerable bank of different genetic factors which can give rise to an extremely wide range of variable characteristics in their seedlings.

The garden camellias are an outstanding example of plants which are extremely variable when grown from seed. From the few dozen Chinese plants brought to Europe and America in the early 1800's, were developed some thousands of named cultivars by the early camellia enthusiasts, such as John Alnutt who raised 'Alnutt Superba' in 1817 and William Ross who produced 'Rossii' in 1815 in England, or Michael Floy who released 'Floyii' in New York about 1809. These were followed by such well known camellia breeders as Wilder and Hovey of America, Chandler and Low of England, Mathot of Belgium, Lemaire of France and Franchetti of Italy.

Such men as these introduced a flood of cultivars of their raising during the last century. At the same time a large number of camellias of Japanese origin were introduced to America and Europe, as well as a number of new camellia species coming mostly from China.

With this enormous background of material, the modern camellia breeder has introduced a large group of new cultivars which have, to a large ex-

tent, superseded the old varieties. A very recent development has stemmed from the realization that many of the various camellia species are not only excellent garden material in themselves, but will cross fertilize with other species and, in particular, with the more elaborate flowering, garden forms of *C. japonica*, *C. reticulata* and *C. sasanqua*. From these hybridizations are now coming camellias with new combinations of colour, form and habit.

It may be thought that, in the tens of thousands of new camellia seedlings that have been raised, about every possible combination of desirable characteristics has been obtained and that there is no place for new varieties amongst the many hundreds now available. This is far from true as, not only is the camellia one of the most variable of plants, but the various combinations of interspecific hybridization have hardly been touched, let alone the endless possibilities of multi-hybrid combinations which increase with every new hybrid produced, so that there yet remains an enormous field to be worked.

In this article terms are used on which it may be desirable to be specific, as some of them are rather loosely used in general literature. The word "hybrid" is here limited to define individuals obtained by crossing outside one species. Hence crosses between members of two different species would produce "interspecific hybrids" and between individuals of two genera, "intergeneric hybrids". Intercrossing between hybrids or backcrossing a hybrid with a member of one of its composite species, all would produce hybrids. However a new plant obtained by crossing two members of

(Continued on next page)

the same species, such as a cross between the two *C. japonica* cultivars, 'Moshio' and 'Hagoromo', would be a "cross", not a hybrid.

Furthermore, present botanical and horticultural convention limits the use of the word "variety" to the naturally occurring variants of a species as found in the wild. The seedlings that are raised under cultivation are properly called "cultivars". The term "clone" is used to refer to a bud individual, that is a plant stemming vegetatively from a plant bud by grafting, layering, in-arching, budding or striking. Plants of a particular clone are usually identical and changes can only occur through bud mutations which can form a variant clone, known as a "sport".

While it is always of interest to plant a few of the seed that occur naturally on our camellia plants; and many of our present most famous cultivars are the result of chance set seed; the results of controlled crossing will create greater interest and be much more rewarding. It will also be found that the percentage of good results will be increased. With chance set seed it has been averaged that only one in a thousand will be worthwhile growing on, while with controlled interspecific crosses, particularly where the field has been hardly touched, a large percentage of resultant plants can be worthwhile cultivars. An example of this are the three famous Asper "Girls" selected from 11 seedlings obtained from the difficult *reticulata* — *sasanqua* cross. Further breeding with this material alone raises the interesting possibilities of Autumn flowering *reticulatas* with *sasanqua* floriferousness and resistance to root rot.

The plant breeder should select a particular goal at which to aim and to concentrate in one area of plant development, particularly with camellias, which generally take 4 to 5 years from seed to the first flower, although this process can be hurried up if one

can afford a climate control glass house with light and high nutrient levels.

In breeding, the first generation crosses are only a start and, even though some worthwhile cultivars may result, it is the second and third generation plants that will show the results of a breeding program. For example if the Asper "Girls" are taken as the first generation in endeavouring to breed Autumn flowering *reticulatas*, a second generation population could be obtained from back crossing them to the earliest flowering *reticulatas*. This population should then be selected for early bloomers with *reticulata* flower forms and the best of these intercrossed. This should bring in from both sides the early blooming characteristic as well as the large flowers of the *reticulatas*. From the resultant third generation population it should be possible to select plants with the huge, showy, *reticulata* blooms flowering as early as April.*

Other fields open to further development include better early flowering *japonicas*, camellias more resistant to heat and drought, yellow camellias, scented camellias; camellias which display their blooms to better advantage, floriferousness, landscaping qualities, smaller shrub-like camellias with good flowers and many others.

Interspecific Crossing

With reference to interspecific crossing this has only recently been developed to any great extent due both to the small selection of species which were previously available and to the generally held opinion that different species would not cross. However, during the last 15 years it has been found that most species will hybridize to some extent, under suitable conditions. In this regard there is a wide range of interspecific fertility; some species, such as *C. saluenensis*, crossing readily with a wide range of other species, and others, such as *C. sasan-*

*Southern Hemisphere calendar. —Ed.

qua, which will cross only with a limited number of other species and with a low rate of success. There yet remains a great deal to learn in this field, as there are still a considerable number of camellia species which have not yet been available for breeding and work done with most of the available ones is limited.

However it is obvious that the difficulty factor in some crosses is considerable and seems to increase the further apart species are genetically. Successful intergeneric crosses are rare but the fact of their successful accomplishment should lead to further efforts in this area.

Flower Structure and Fertilization

In selecting suitable plants for breeding, once the type and characteristics required are decided on, particular cultivars in this range should be selected as seed parents. These must have a normal pistil, the most fertile generally being in the single and semi-double flower class. However plenty of informal double blooms also have a fertile gynoecium. Amongst these is the old cultivar 'Anemoniflora' which has a complete cushion centre of petaloids without a single anther and in the middle is a perfectly normal pistil. This variety was much used by the early camellia breeders as they knew that it could not self-fertilize; in fact most of the old Camden Park varieties have this camellia as a parent.

The particular value of each parent can only be evaluated after its first batch of seedlings flower, when certain parents will be found to throw seedlings with a much higher percentage of good blooms than others. Such plants can be considered as good breeder material, and regularly used as such.

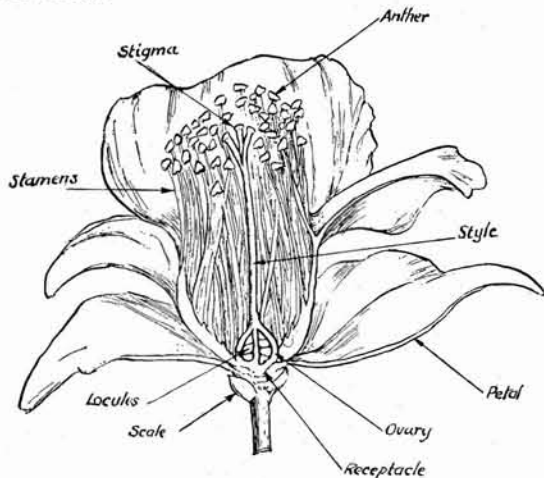
Pollen can be obtained from most classes of

blooms, even formals, at some time or another.

Controlled cross fertilizing camellia blooms is quite simple, the main requirement being time and attention to detail. The flowers are large enough so that their various parts can be clearly seen and easily manipulated. To successfully fertilize a bloom it is necessary to place ripe pollen from one flower onto the receptive stigma of another flower at a suitable time, at the same time preventing accidental pollination from other sources. It is in the attention to the various requirements of "ripe pollen", "receptive stigma", "suitable time" and the prevention of accidental pollination that take the time and require the care and attention.

A study of the most simple type of camellia bloom is best to illustrate its various parts, as in this type of bloom all the sexual parts are fully developed. Firstly and most obviously there are the large, fleshy, outer petals with a centre group or column of stamens. The stamens consist of filaments crowned with the anthers on top and forming a united base with the petals below. The anthers can be pale to deep yellow or golden when fresh, often becoming brownish when old. In the

(Continued on next page)



case of many hybrids they turn dark brown to almost black when past maturity. They are usually heart shaped and consist of two sacs or lobes from which the pollen is released when they rupture on maturity. Anthers generally mature in camellia blooms before the stigma is receptive, sometimes even before the petals are open. This is probably a mechanism to reduce the possibility of self fertilization.

In the midst of the stamens will be found the pistil, which consists of an ovary at the bottom then a slender column called the style, the upper tip of which is split into three to five arms, depending on species and cultivar. On the tip of each of these arms will be found a stigma. A section through the ovary will show that it is divided by membranous partitions into three to five little chambers known as locules or carpels, corresponding in number to the arms on the style. In each of these chambers are from one to three ovules which are the elements that, when fertilized, will develop into seeds.

When the stigma is mature it becomes receptive to pollen by exuding a slightly sticky, moist film over its surface. This enables it to capture any pollen with which it comes into contact. In nature, this contact is usually made by wind or insects. It can also be done artificially by hand.

Hand pollination is very simple. Firstly the flowers from which the pollen will be taken are selected and covered with a small bag held by a rubber band. The female flowers are prepared by removing all anthers, usually known as emasculation, and best done with small scissors or tweezers, and then bagging in the same manner. Small polyethylene or waxed paper bags are generally best as the condition of the flowers can be observed through them. This bagging is to prevent accidental pollination from an undesired source.

As soon as it is considered that the stigma of a selected bloom is receptive, the bag is removed and the desired pollen placed on the stigma. This can be done by detaching a complete stamen from the pollen donor bloom and brushing its anther across the stigma. In the case of stored or loose pollen, a match end or toothpick can be used as a spatula for transferring the pollen to the stigma. A new spatula should be used for each variety of pollen. If there is doubt about the receptiveness of the stigma, an anther can be left lodged in the arms of the style or it can be re-pollinated the next day. An ordinary reading glass is quite helpful to establish if pollen grains are adhering to the stigma, usually denoting receptivity. Usually when receptive the moisture on the stigma makes it glisten. After pollination the bag should be replaced until there is evidence of success, shown by the swelling ovary. The date and information on each cross made should be written on a plastic or metal tag and secured to the flower twig by fine wire. When the seed has matured it should be collected and planted as soon as the capsule shows signs of splitting. The tag can then be used to identify the particular seed.

Pollen can be stored for considerable periods of time and still retain its viability. Pollen from *reticulatas* blooming in the spring has been stored and used successfully on *sasanquas* next autumn. For storage, pollen collected from each cultivar should be placed in a separate standard gelatin capsule such as is used by chemists for powdered medicines. A code number is then inscribed on the side to identify the pollen donor and the capsules placed in a sealed jar on a layer of cotton wool over a dehydrating agent such as silica gel or anhydrous calcium chloride. The sealed jar is then held in the crisper compartment of the refrigerator until required.

Directory of California Camellia Societies

Societies with asterisk () are Affiliates of Southern California Camellia Society*

*CAMELLIA SOCIETY OF KERN COUNTY

President: John J. Fortenberry; Secretary: Lemuel Freeman, 209 S. Garnsey Ave., Bakersfield 93309
Meetings: 2nd Monday Oct. through Apr. at College Hts. School, 2551 Sunny Lane, Bakersfield

*CAMELLIA SOCIETY OF ORANGE COUNTY

President: Ronald Cowan; Secretary, Mrs. George T. Butler, 1813 Windsor Lane,
Santa Ana 97205
Meetings: 1st Thursday October through April in Orange County Farm Bldg., 1916 W. Chapman,
Orange

CAMELLIA SOCIETY OF SACRAMENTO

President: Fred E. Carnie, Jr.; Secretary, Mrs. Frank P. Mack, 2222 G. St., Sacramento 95816
Meetings: 4th Wednesday October through May in Garden & Art Center, McKinley Park,
Sacramento

*CENTRAL CALIFORNIA CAMELLIA SOCIETY

President: Richard Pozdol; Secretary: Mrs. Glenn S. Wise, 5493 E. Liberty Ave., Fresno 93702
Meetings: Nov. 19, Dec. 17, Jan. 21, Feb. 18

DELTA CAMELLIA SOCIETY

President: Wm. H. Hayes; Secretary: Mrs. Anita Abernethy, 2962 Boies Dr., Pleasant Hill 94523
Meetings: 4th Tuesday October through April in School Adm. Bldg., 510 G St., Antioch

JOAQUIN CAMELLIA SOCIETY

President: Joseph H. Baker; Secretary: Mrs. Ethel S. Willits, 502 W. Pleasant Ave., Lodi 95240
Meetings: 1st Tuesday November through April in Micke Grove Memorial Bldg., Lodi

LOS ANGELES CAMELLIA SOCIETY

President: James Tuliano; Secretary: Mrs. Joe L. Vendracek, 13176 Fenton, Sylmar 91342
Meetings: 1st Tues., Dec. through April, Hollywood Women's Club, 1749 N. La Brea, Hollywood

MODESTO CAMELLIA SOCIETY

President: Anthony F. Pinheiro; Secretary: Mrs. Hazel Grosso, 1424 Encina Ave., Modesto 95351
Meetings: 2nd Monday October through May in "Ag" Bldg. of Modesto Junior College

NORTHERN CALIFORNIA CAMELLIA SOCIETY

President: Harvey L. Morton; Secretary: Robert C. McConnell
Meetings: 1st Monday November through May in Claremont Junior High School, 5750 College
Ave., Oakland

PACIFIC CAMELLIA SOCIETY

President: Albert H. Dekker; Secretary: Mrs. A. L. Summerson, 1370 San Luis Rey Dr.,
Glendale 91208
Meetings 1st Thursday November through April in Tuesday Afternoon Club House,
400 N. Central Ave., Glendale

PENINSULA CAMELLIA SOCIETY

President: Cullen Coates; Secretary: Mrs. Charles F. O'Malley, 65 Robles Drive, Woodside 94062
Meetings: 4th Tuesday September through April in First Federal Savings & Loan Bldg.,
700 El Camino Real, Redwood City, Calif. 94061

*POMONA VALLEY CAMELLIA SOCIETY

President: Walter Harmsen; Secretary: Mrs. Janet Meyers, 744 E. Dover, Glendora
Meetings: 2nd Thursday October through April in First Federal Savings & Loan Bldg.,
399 N. Garey Ave., Pomona

*SAN DIEGO CAMELLIA SOCIETY

President: Charles B. Persing; Secretary: Mrs. William Schmitt, 101 Minot St., Chula Vista
Meetings: 2nd Friday (except February which is 1st Friday) November through May in Floral
Assn. Bldg., Balboa Park, San Diego

SANTA CLARA COUNTY CAMELLIA SOCIETY

President: Abe D'Innocenti; Secretary: Miss Pat McIntyre, 1810 Olive Ave., Apt. 4, San Jose 95128
Meetings: 2nd Thursday at Willow Glen Branch, American S/L, San Jose

SONOMA COUNTY CAMELLIA SOCIETY

President: C. O. McCorkle; Secretary: Miss Joy Monteleone, 505 Olive St., Santa Rosa 95401
Meetings: 4th Thursday, except Nov. (3rd Thursday) and Dec. (to be decided) in Redwood
Empire S/L Assn., 1201 Guerneville Rd., Santa Rosa

SOUTHERN CALIFORNIA CAMELLIA SOCIETY

See inside front cover of this issue of CAMELLIA REVIEW

*TEMPLE CITY CAMELLIA SOCIETY

President: Grady L. Perigan; Secretary: Mrs. Marie Perigan, 1147 Daines Dr., Arcadia 91006
Meetings: 3rd Friday Nov. and Dec. and 4th Thursday Jan. through April in Lecture Hall of
Los Angeles County Arboretum, Arcadia



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