

THE *Camellia*
REVIEW

A Publication of the Southern California Camellia Society



'Aztec'

Courtesy Monrovia Nurseries

Vol. 33

January 1972

No. 3

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: \$6.50.

OFFICERS

ERNIE PIERI, Pres.
601 Elm, San Gabriel 91775
Tel. 287-5977

MEYER PIET, Vice Pres.
757 Anoakia Lane, Arcadia 91006
Tel. 355-6947.

MRS. BERNICE GUNN, Secretary
12022 Gertrude Dr., Lynwood 90262
Tel. 638-6944 (Area code 213)

DIRECTORS

SERGIO BRACCI
5567 Burton, San Gabriel 91775
Tel. 286-4338

PAT NOVAK
6516 Murietta, Van Nuys 91401
Tel. 782-3709

WILBER FOSS
1380 Winston Ave.
San Marino 91108
Tel. 792-0829

WILLIAM H. PIKE
3630 Frances Ave., Los Angeles 90066
Tel. 397-0873

MELVIN L. GUM
5641 N. Willard, San Gabriel 91775
Tel. 287-6765

CARYLL W. PITKIN
2465 Sherwood Rd., San Marino 91108
Tel. 287-5826

TED B. MITCHELL
520 N. Segovia, San Gabriel 91775
Tel. 287-4011

DENNIS SHUBIN
9191 Daffodil Ave., Fountain Valley 92708
Tel. 842-5094 (Area code 714)

DR. FRED MOWREY
12650 Higa Pl., Rancho Bernardo
San Diego, Calif. 92128
Tel. (714) 487-7320

AB L. SUMMERSON
1370 San Luis Rey Dr., Glendale 91208
Tel. 244-4789

HONORARY LIFE MEMBERS

DR. JOHN H. CLAIRMONT*

DR. H. HAROLD HUME*

HAROLD E. DRYDEN

MR. RALPH S. PEER*

COL. C. M. GALE*

COLONEL FRANK REED

MRS. ANNE GALLI

MR. E. C. TOURJE

MR. WALTER G. HAZELWOOD

PROF. E. G. WATERHOUSE

DR. WILLIAM HERTRICH*

MR. WILLIAM E. WOODROOF

*Deceased

FOREIGN REPRESENTATIVES

L. R. BRAY
33 Merrenburn Ave.
Naremburn, N.S.W., Australia

OLWEN LAURIE
Box 10083, Te Rapa
Hamilton, New Zealand

THE CAMELLIA REVIEW: HAROLD E. DRYDEN, Editor, 820 Winston Ave., San Marino, Tel. 793-4214

EDITORIAL BOARD:

Howard Burnette, Mrs. Evelyn Johnson, Mrs. Janet Meyer, Ernie Pieri

PUBLISHED BY THE SOUTHERN CALIFORNIA CAMELLIA SOCIETY, INC.

© Copyright 1972

Six issues per volume — October, November, January, February, March and May.
All manuscript for publication and correspondence should be sent directly to the Editor.
Republication permitted, if due credit is given the Camellia Review and the author.
CHANGE OF ADDRESS: Notify the Secretary at once. Magazines are not forwarded by the Post Office.

CONTENTS

VOL. 33

JANUARY 1972

NO. 3

Art of Grafting, The <i>Alvin L. Gunn</i>	12
California Camellia Show Schedule 1972	15
Camellia Culture as We Practice It <i>L. R. and Violet Shuey</i>	7
Camellia Hybrids <i>Julius Nuccio</i>	20
Camellia Seeds	14
Camellias—Espaliered	22
Cold Weather Forecast	23
Form and Color <i>Douglas G. Thompson</i>	16
New Show Division	24
New Zealand Camellia Society Awards of Garden Merit	23
Sacred Camellia of Yaegaki Shrine <i>Jack Craig</i>	9
Show Results	11
Thoughts From the Editor	2
Virus-Induced Variegation, a Friend or Foe to Camellia Culture <i>P. O. Cheo</i>	3

THE COVER FLOWER

C. HYBRID 'AZTEC'

This flower is a cross of *C. japonica* 'Lotus' and *C. reticulata* 'Crimson Robe' that was made by Howard Asper. He sold it to Monrovia Nurseries of Azusa, California and they will release it in early 1972. The rose form double flower has reached six and one-half inches in diameter and three and one-quarter inches in depth in outdoor growing, without gibbing. Color is rose madder.

NEW 1972 "CAMELLIA NOMENCLATURE" IS NOW READY FOR MAILING

For orders of less than 12 copies \$2.50 per copy
For orders of 12 and more copies \$1.95 per copy

Send Orders To

Southern California Camellia Society

12022 Gertrude Drive

Lynwood, California 90262



THOUGHTS

from the editor

I wasn't going to write this page this month until I heard and saw Marge Riley's demonstration of flower arranging at last night's Southern California Camellia Society meeting. Now don't get me wrong. Marge did a delightful job, in presentation and in workmanship. I enjoyed hearing her and looking at the arrangements she made for us. But as she talked and worked, that old feeling within me was resurrected and I kept asking myself "why can't these modern day flower arrangers build their arrangements around flowers instead of using a flower or two to supplement another point of interest such as a piece of wood, a statue, etc?"

I can remember when "flower arrangements" were *flower* arrangements, with the flowers the dominant feature and the other elements used to enhance the design. They were called the accessories, which means, according to my dictionary, "aiding the principal design". Nowadays what were once the accessories are the principals and a flower or two are put in for "accent". They really call it "accenting the flower". Last night, Marge almost forgot to add the "accent" flower before she signed off on one arrangement.

Now I admit that I am prejudiced because I like flowers. I also like design and I particularly like designs that are built around flowers. I do not enjoy the Victorian arrangements that seem to crowd the flowers into a container. I know that the people who have the ability to make these modern arrangements also have the ability to make real designs that are built around flowers instead of other objects. There seems to be an attitude among the professional arrangers, however, that it is out-of-date to emphasize the flowers in an arrangement, that the all-important thing is to use them for a little color in the design. This is reflected in the arrangements that the "students" display.

I believe that camellia societies should promote flower arrangements to demonstrate how the flowers that are grown in the garden by the camellia hobbyists can be displayed inside the house in the form of arrangements. This means, of course, that the arranger must be given freedom to pick flowers on stems as she needs them. It means, also, that the "gardener" must grow in his garden the accessory plants that are required for a well thought out design of flowers. We shall run in the February issue of CAMELLIA REVIEW an article that will suggest some plants that are useful for such purposes. I know that this can be done because I have had the pleasure of seeing arrangements in which the flowers have been principals in themselves with accessories to make them stand out, and not as subsidiary objects to accent a statue or a rock or a piece of wood.

Harold E. Dyer

VIRUS-INDUCED VARIATION, A FRIEND OR FOE TO CAMELLIA CULTURE

P. C. Cheo

Research Division

Los Angeles State and County Arboretum, Arcadia, Calif.

In the 16th and 17th century, Netherlands, the land of the tulip, was grasped with a craze that is recorded in history as "tulipomania". "Breaking" in tulip blossoms mysteriously appeared. The fascinating patterns of color combinations increased the esthetic value of the bloom. Wealthy Dutchmen paid fortunes for such plants; a single bulb that gave a flower of rare beauty is said to have furnished the entire dowry of the daughter of one of the country's richest merchants. At first only a few families knew the secret of producing the streaked flowers—simply by rubbing the juice of a streaked plant onto a solid colored one. Such a secret could not be kept for long. Speculators eventually lost fortunes in the collapse of the market. This streaked blossom of the tulip is one of the earliest known cases of virus disease in plants. The concept of disease, however, did not enter the mind of growers at that time; since in this particular case, it was a friendly virus, it enriched the growers rather than deprived them.

Variation of camellia blossoms and leaves is another case of ornamental enrichment. Many prized varieties of camellia have been named simply due to their variegated colors as compared with the solid-colored ones. Practically nothing was known of the nature of variation in camellia until recently. Two distinct types of variation in camellias are now recognized. One is the non-infectious, genetic variation, and the other is the infectious, virus-induced variation.

Genetic variation is common in camellias. It is usually manifest in various types of petal striping, gen-

eral flower color instability or variegated discoloration pattern on foliage. Some cultivars, such as 'Finlandia', are known to have unstable flower color and they "sport" frequently. Genetic variation of foliage appears as mutant types in seedling populations, but such plants are generally weak or sunburn readily, and they are usually discarded. Consequently, only a couple of named varieties which carry genetically-controlled foliar variation are known. According to Dr. Clifford R. Parks, now at the University of North Carolina, more than one mutant causing petal anthocyanin (red to pink) variation apparently exists in camellias, and these can be recognized by sharp lines or sectary patterns. This type of variation must be vegetatively propagated, and it is transmitted to seedlings according to a regular genetic pattern; however, such variation is never transmitted over a graft union.

Virus-induced variation is responsible for the majority of the variegated forms. This type of variation is irregular in pattern due to the typical mosaic or mottling expression caused by systemic spread of virus in camellia tissue. Virus replication inside the plant cells causes a gradual and uneven disintegration of pigments and inhibition of pigment formation. Therefore, this type of variation represents a disease syndrome in camellias caused by virus infection. It so happens, however, that this disease symptom on the flower and leaf creates a sense of beauty in the eyes of camellia lovers. This appreciation of the variegated form in flower and leaf overshadows many

(Continued on next page)

other undesirable aspects of the virus infection, thus it becomes accepted rather than rejected. Virus induced variegation in camellias has not been investigated in detail. The reason for this is due entirely to the fact that it is so far still a friendly virus. It has not, in the past and present, threatened the camellia culture. Quite to the contrary, it has furnished a wider dimension for camellia breeders in creating beauty in color and pattern.

The camellia virus-induced variegation was demonstrated to be graft-transmissible first by Milbrath and McWhorter (5) and later by Tourje (8). It is only through graft-union that transmission of virus from infected plants to healthy plants can take place and a solid-colored plant can thus become a variegated one. Many other highly infectious plant viruses can be transmitted through mere contact—juice transmission. In these cases, the rapid spread of these viruses from rain storms and through contact during cultivation can result in the failure of the whole crop. For many years tobacco crops and tomato crops were threatened in this manner by tobacco mosaic virus until resistant varieties against virus infection were later developed.

Insects are the other major agents for plant virus disease transmission. Some insects transmit the virus merely through accidental contact during feeding from infected plants to healthy plants. Others have a very specific relationship. For instance, aphids with sucking mouth parts may carry plant viruses on their stylets (stylet-borne viruses) or they may accumulate the virus internally and, after passage of the virus through the insect tissues, they introduce the virus into plants again through mouth parts (circulative viruses). Some circulative viruses may multiply in their respective vectors to reach a concentration of infection level before they can transmit them to healthy plants, and are then called 'propagative vi-

ruses'. Of the approximately 50 viruses transmitted by leaf-hoppers, more than 30 are transmitted specifically by only one vector, a few by 2, 3 or 4 vectors, one by 22 vectors and one by 25 vectors.

It is quite fortunate that camellia variegated virus is not transmitted mechanically (juice-transmittable) nor by insect. Otherwise, it would be a troublesome problem for camellia growers to preserve solid-colored clones. It was assumed by Plakidas (6) that the camellia variegated virus originated in the Orient. The insect vector for this virus was apparently left behind when the camellia was introduced into Europe and America. If this is the case, camellia growers here in the U.S. are faced with the threat that the insect vector left behind may someday show up on this shore. Another possible threat is that some insect vector here might become adapted to transmit this virus from camellia to camellia or from other plants to camellias.

One of the possible reasons that this can only be transmitted by grafting or budding could be due to its low concentration in the plant. The virus concentration in the sap may not be high enough for juice transmission. This could easily be the case in the camellia variegation virus, because it is a very mild disease; it does not cause severe damage to the plant as other virus diseases do. Many plants are subliminally infected with virus (2) with a low virus concentration inside the tissue and with very mild symptoms or entirely without noticeable symptoms. The second reason may be due to the fact that the virus is very unstable when it is outside the cell, that only through graft-union can the virus safely pass through from one plant to another without losing its infectivity. Thirdly, the possibility exists that the virus can only be established when it is properly introduced into the vascular tissue of the plant. Therefore, the

graft-union is the proper means of establishing the infection, unless a specialized insect vector can do the job properly by placing the virus at the site of infection—the vascular tissue. Thus it seems at present camellia variegation is well under the control of the camellia grower. He can manage at will whether or not he needs to introduce the factor of variegation into his breeding design. However, accidental variegation of the solid colored varieties probably occur in certain frequency. Plakidas (7) reported evidence of transmission of the variegation virus through root grafts in camellias. Therefore, spreading of the variegation virus can take place without the effort of man. A variegated plant can form root-grafts naturally with the neighboring solid-colored varieties, and the virus can then be transmitted to the solid-colored varieties. This situation of spreading the variegation without the consent of the camellia grower would not be appreciated at all.

It has to be recognized that virus-induced variegation in camellia is a diseased condition. The virus infection in the plant cells causes a general degeneration of pigment formation which we recognize visibly as color variegation and probably many other deleterious effects to the total health of the plant in a mild form which escapes our immediate attention. It is well known that variegated plants are more susceptible to sunburn than the solid-color plants. When used as scions, variegated plants show a much higher percentage of graft failure. In addition, variegated plants particularly those with extreme chlorosis like 'Kumasaka', show noticeably smaller and weaker growth than their solid green counterpart. Therefore, the pleasing effect of flower variegation in camellia may easily overshadow other deleterious effects which are not our present concern.

The severity of disease develop-

ment in virus infection may be influenced to a great extent by environmental factors such as temperature, light (photoperiod and light intensity), rainfall and fertilization. Some virus infections cause more damage to plants on cool shorter days, while others do their damage on warm longer days. At certain seasons the virus can be very mild so that the symptom is completely masked and one can not differentiate a virus-infected plant from a healthy plant. But, when the season changes, the damaging effect of virus infection reappears. It is stated (6) that camellia varieties with virus-induced variegation show little or no variegation in the cool climate of the San Francisco Bay area of California, but when these varieties were transferred to the warm interior valley they became prominently variegated. Hildebrand (3) claimed that virus-induced variegation is a limiting factor in camellia production in Texas. There are probably varietal differences in the degree of susceptibility to the virus-induced variegation in camellia, and the respective response to environmental influence, may also vary. Some varieties may be more strongly affected by this virus at certain climatic zones than others. It should also be considered that the cumulative effect of the virus infection in camellia may become more and more undesirable as the infection persists from year to year. This is the case in tulip breaking. After several generations the "breaking" tulip becomes smaller and weaker both in stand and the size of the bloom. Since camellia is a woody plant, the decline in vegetative vitality would be much more gradual. But we would expect that in the long run, variegated forms will become weaker.

The virus infection in camellia can be further complicated by the existence of many strains of the virus. According to Plakidas (6) there are

(Continued on next page)

at least four different strains of the variegated virus attacking camellias. The pathogenicity of each strain to the different varieties of camellia may vary to a great extent. Different strains may provoke different damaging effects to the same variety of camellia. One strain may produce a mild variegation on a variety and another strain could produce a very severe form of variegation on the same variety resulting in a state of gradual debilitation. Furthermore, new strains may possibly arise through mutation and further be selected specifically through varietal infection. The frequency of spontaneous mutation in virus is high. Estimates for tobacco mosaic virus, a highly infectious virus, have ranged from about 0.1 to 2% (4). These mutant virus particles resulting from spontaneous mutation can be specifically selected and established by a fateful passage through a particularly favorable host species or variety. Therefore, there is a possibility that a new strain of high pathogenicity can be developed due to indiscriminate grafting practice. The complexities of virus problems in stone fruits and citrus crops may be attributed to the grafting practice in the long history of their cultivation. There is also evidence that recombination (hybridization) can take place between different strains of a virus inside the plant cell (1). A resultant new recombinant (hybrid) strain would have a different genetic make-up with the potential of altered pathogenicity. A possible threat to camellia culture in the future exists if extensive grafting practice for virus-induced variegation is carried on. Not only in the sense of preserving these solid-colored varieties, but also in preventing the harmful effect of this virus infection to be accentuated in the future, that is our concern.

Most virus do not transmit through seed. If this is true, with virus-induced variegation in camellia, seeds from

variegated flowers should produce only solid flower plants. However, no study has been made of the fact that all camellia varieties will not carry the variegation virus through seed. We can only assume that they are not. In this respect, the virus problem in camellia has a dual safety control: to introduce the virus through grafting only, and to eliminate the virus through seed propagation. As long as there is no insect vector involved, and no existence of severe strain of the virus, camellia growers can feel at ease with this virus at the present moment.

Further informations concerning virus-induced variegation in camellia are needed, such as camellia varietal response, environmental influence, virus strain differentiation, host range determination and the study of the isolated virus. These informations will help to understand the variegated virus, the camellia plant, and the relationship between the virus and the camellia plant. We hope that the present peaceful co-existent relationship between the virus and the camellia will be a long and lasting one. However, as indicated in this paper, there are possibilities of undesirable developments. We would be more comfortable in facing these uncertainties if we understand more about this problem.

1. Best, R. J. and Gallus, H.P.C., 1955. Further evidence for the transfer of character determinants (recombination) between strains of tomato spotted wilt virus. *Enzymologia* 17,207.
2. Cheo, P. C. 1970. Subliminal infection of cotton by tobacco mosaic virus. *Phytopathology* 60, 41-46.
3. Hildebrand, E. M. 1954. Camellia variegation in Texas. *USDA Plant Disease Reporter* 38, 566-567.
4. Kunkel, L. O. 1947. Variation in phytopathogenic viruses. *Am. Rev. Microbiol.* 1, 85-100.
5. Milbrath, J. A. and F. P. McWhorter, 1946. Camellia yellow spot—a virus disease of camellias. *American Camellia Yearbook* 1946. 51-53.
6. Plakidas, A. G. 1958. Variegation:

(Continued on page 21)

CAMELLIA CULTURE AS WE PRACTICE IT

L. R. and Violet J. Shuey

Temple City, California

The Christmas and New Year's holidays have come and gone and the excitement of the festivities and the thrilling Bowl games is no more; however, camellia enthusiasts look forward with eagerness to the 1972 portion of the current season. Some of our early varieties have bloomed, as well as many of those which have been "gibbed", but the crest of the season is before us. What then must be done at this time of year to continue with our camellia program and to stimulate additional interest in our hobby?

Our most important task for the month of January is the commencement of our grafting program, which before completion, involves the months of January, February and, in a few instances, the first week or ten days of March. We will not elaborate or go into detail concerning the various steps and procedures involved in grafting scions to understock as the technique and several methods of grafting have been illustrated and explained in former issues of the *Camellia Review*. We will, however, mention a few basic and preliminary principles. In the event camellia understock is purchased, it is recommended that it be obtained, if possible, during the middle or the latter part of the year preceding that in which grafting is done. Upon procurement of the understock, each plant, unless in the best of condition, should be removed from the containers and the soil washed therefrom. When thoroughly washed and cleaned (bare rooted), a careful inspection should be made of the root system. If in extremely poor condition, the plant should be discarded. On the other hand, if the tap root, or some of the small feeder roots need pruning, this should be done before

repotting the plant in a new camellia soil mix. Many times we prune and remove portions of the root system afflicted by rot or other root diseases. When the plant is repotted in a container of sufficient size, it is watered well and kept damp until the new soil has compacted around the roots. The addition of Vitamin B-1 to the water is an invigorating agent, prevents wilting, and is an inducement to complete restoration of the repotted plant. By the time that the grafting season arrives, your understock should be in good condition, thereby enhancing your percentage of takes.

During the past ten years, we have grafted in January, February and the early part of March and have carefully observed the results to determine whether or not one month is better than another. The results are not conclusive insofar as January and February are concerned, but the success ratio in either month is considerably higher than on plants grafted in March. This success ratio differential is, undoubtedly, occasioned by grafting scions in March which were obtained from plants whose period of dormancy had terminated or was nearing termination. This condition is commonly referred to as "feathering", which means that the plant sap has started to flow and new growth has commenced. Scions grafted during this period of time are often casualties since, in many instances, calusing does not result. Grafting in March is prohibitive to us because the loss in understock does not compensate for the small amount of successful takes.

Many people commence their grafting program in December and have indicated that their success ratio has

(Continued on next page)

been good. One local nursery does its grafting in December in order to concentrate on plant sales following the commencement of the new year.

Much has been said and written about grafting failures. Many believe that some failures are caused by the lack of compatibility between certain camellia varieties. While this may be true in some instances, the grafting of scions to large understock growing in the ground seems to disprove much of this theory. We have grafted many scions to this type of understock and our success ratio has approximated between 90-95%. We, therefore, conclude that the vigor and excellent root system of the stock are the success factors. Whenever large stock is used, three or four scions are grafted thereto. This number insures that at least one will be successful; however, most of the time, all of the three or four scions survive which necessitates some pruning and the elimination of excess stems and branches during the latter part of the year.

When we first learned the rudiments of grafting, we grafted everything that was a member of the camellia family. As most of us know, the majority of this work did not live up to expectations. So many of the "hot" numbers and unseen new introductions did not equal or measure up to the quality of the understock to which they were grafted. Due to an overcrowded garden and the current price of understock, if obtainable, we no longer graft everything. We now carefully prepare a list in advance of the grafting season of only those varieties that appeal to us or have been tested by known experts. We have now reached the saturation point where a new variety or specie which we desire to graft must be equal to or exceed in quality what we have, since each additional plant necessitates the removal or discard of one in our garden. This problem also necessitates the grafting of fewer plants each year.

January and February are usually two of our wettest months and much rain can fall. Many people cover their newly grafted container plants with glass jars or with plastic. If glass jars are used and the neck of the jar is placed inside the container, it would be advisable to cover the glass jar with a plastic "baggie", which fits snugly over the jar and also covers the top of the container. This serves two purposes, (1) to protect the newly grafted plant from heavy rainfall and (2) to counter direct rays of the sun. If the soil around the plant becomes excessively wet, bleeding of the graft will result. This undesirable condition leads to the growth of fungus on the cut portion of the understock and in the graft cleft containing the scion. The fungus will eventually kill the scion and prevent callusing.

Since plants are normally grafted in the cold winter months and are not bothered by the sun until hot weather develops later in the spring care should be taken that your grafts, while under their protective glass coverings, are not exposed to the direct rays of the sun. If this should occur, the glass jar can act as a powerful magnifying glass and your scion within a short period of time can be reduced to a blackened and horribly burnt plant. This has happened to us on several occasions. The graft, with its glass jar cover, was placed under the protective shade of a bush or tree and, subsequently some weeks later when the sun had changed its overhead position in the sky, rays of direct sunlight fell on the glass jar causing tremendously high temperatures within the jar and resultant burning and destruction of the graft. Unfortunately, when a graft has been lost in this manner, it has often been our most valued one originating from a scion which had been extremely difficult to obtain.

For those who are interested in
(Continued on page 24)

THE SACRED CAMELLIA OF YAEGAKI SHRINE

Jack Craig
Tokyo, Japan

Japan, known as "Land of the Gods," is so termed because of the elaborate pantheon of Shinto Gods which are believed to control the forces of nature and all facets of existence; plant, animal and human. Not so much as a hair's breadth of soil is not presided over by its respective God and the trees are haunted and holy. Even rocks and stones are thought to be infused with conscious life. The Izumo area of Japan, being the oldest in all the land, has more than its share of legend and mystery. The ancient Yaegaki Shrine in Matsuae, located in the heart of Izumo, is said to be the oldest of all Shinto shrines. Ancient folklore and legend attests it to be the favored sanctuary of the Gods of happiness, of health, of prosperity and especially of the Gods of

marriage. In a fanciful mood, these Gods of union are thought to have entered into two camellia trees, fuzing them into one. Last May we made a special trip to see this fabled specimen called "Renri-tama-tsubaki." Yaegaki Shrine is located about 20 minutes by taxi from downtown Matsuae. Within its ancient and sacred grounds we found many ancient camellia trees. Failing to find the famous specimen in which we had come in search, a robed priest whose help we sought, directed us across the road in front of the Shrine where the ancient specimen stood in all its splendor atop a stone lined, pyramid like mound. Its ancient branches spread 30 ft. into the air like those of a mighty oak, lichen covered and incrustated with clumps of *Neofinetia falcata*, the Japanese wind orchid. This little or-

(Continued on next page)



The base of the giant reveals the marriage of two original trees into a single specimen. The author's wife, Ginko, demonstrates the size of this enormous camellia tree.



The base of the giant reveals the marriage of two original trees into a single specimen.

chid is a summer delight when its white honeysuckle like blossoms send out their strong but delicate scent into the warm, summer evening air. Even in May the camellia patriarch still boasted hundreds of single, red *Camellia japonica* cups among its waxy foliage. Its great age, majestic form and rich legend render it a pillar of awe. Close examination of the specimen's massive base reveals how two separate trees became completely fused into one, single, gigantic trunk 47 inches in circumference above the union. To Shinto followers, this union is a divine symbol attesting to the infinite presence of the Gods of union and to their special patronage of the Yaegaki Shrine.

Crossing back into the Shrine grounds, the priest motioned us into a little building housing ancient treasures and relics of the Shrine. Opening a small wooden box, he showed us a pressed leaf with two

tips; two leaves in one; further evidence of divine favor of the Gods. "Each year," he explained, "the tree produces 4 or 5 such leaves to remind the followers of the continued favor and support of the Gods." Young couples come from afar to be married at the Shrine as marriages performed there are without fail, long lasting and permanent. Needless to say, the custom results in great commercial advantage to Yaegaki Shrine.

The grounds of nearby Sada Shrine boast another united but much younger camellia specimen in a most conspicuous location. Although the specimen is said to be a "Naturally united one," I rather suspect that the union might have occurred with a little priestly help in an effort to jump in on the marriage boom!

Social Security is a system that guarantees a person steak after his teeth are gone.



REPEAT PERFORMANCE !
SECOND
CAMELLIA TOUR
OF JAPAN

AGAIN, JACK CRAIG, WELL-KNOWN HORTICULTURIST AND CAMELLIA AUTHORITY, WILL ACT AS HOST AND INTERPRETER FOR A 3-WEEK TOUR OF THE FINEST OF JAPAN'S CAMELLIA GARDENS. PARTICIPANTS WILL BE GUESTS OF JAPANESE CAMELLIA SOCIETIES AND INDIVIDUAL GROWERS AS WELL.

- See wild colonies of *Camellia Japonica* on Oshima Island
- See the beautiful Higo camellias of Kumamota
- See gorgeous snow camellias
- Chat with Japanese growers in their own gardens and nurseries

Tour Departs San Francisco, April 1, 1972

Size of Group Limited

For full details write to:

EURPAC TRAVEL SERVICE
316 MILLER AVENUE • MILL VALLEY, CALIF. 94941

SHOW RESULTS

SOUTHERN CALIFORNIA CAMELLIA COUNCIL

Descanso Gardens—December 4-5, 1971

- Award of Honor—Harry L. Putnam, Long Beach
Best Large Treated Japonica—'Mathotiana', R. R. Eastman, Costa Mesa
Best Large Treated Japonica Runner-up—'Elegans Supreme', Fred V. Hamilton, Santa Maria
Best Medium Treated Japonica—'Margaret Davis', Caryll W. Pitkin, San Marino
Best Medium Treated Japonica Runner-up—'Nuccio's Gem', Mr. and Mrs. W. F. Goertz, San Marino
Best Large Non-treated Japonica—'Guilio Nuccio', H. S. Putnam
Best Large Non-treated Japonica Runner-up—'Mississippi Beauty', H. S. Putnam
Best Medium Non-treated Japonica—'Daikagura', Luigi Torres, Temple City
Best Medium Non-treated Japonica Runner-up—'Debutante', Luigi Torres
Best Treated Miniature Japonica—'Little Slam Var', Mr. and Mrs. Pat Novak, Van Nuys
Best Treated Miniature Japonica Runner-up—'Pearl's Pet', Mr. and Mrs. Robert McNeil, San Diego
Best Treated Small Japonica—'Kitty', Fred V. Hamilton
Best Treated Small Japonica Runner-up—'Cardinal's Cap', Mr. and Mrs. Robert McNeil
Best Non-treated Miniature Japonica—'Pink Smoke', Mr. and Mrs. Lee Gaeta, El Monte
Best Non-treated Miniature Japonica Runner-up—'Fairy Garden', Ernie Pieri, San Gabriel
Best Non-treated Small Japonica—'Ave Maria', Mr. and Mrs. Lee Gaeta
Best Reticulata & Reticulata Hybrid—'Francie L', R. R. Eastman
Best Reticulata & Reticulata Hybrid Runner-up—'Valentine Day', Mr. and Mrs. Pat Novak
Best Non-reticulata Hybrid—'Elsie Jury', Sergio Bracci, San Gabriel
Best Non-reticulata Hybrid Runner-up—'Rose Parade', Sam Ward, Tarzana
Best Other Species Bloom—'Hiryu' (Australia), Mr. and Mrs. Robert McNeil
Best Other Species Bloom Runner-up—'Dazzler', John and Mary Movich, La Verne
Best 3 Large Treated Japonicas—'Pink Pagoda', Mr. and Mrs. L. R. Shuey, Temple City
Best 3 Large Treated Japonicas Runner-up—'Owen Henry', Fred V. Hamilton
Best 3 Large Non-treated Japonicas—'Guilio Nuccio', H. S. Putnam
Best 3 Large Non-treated Japonicas Runner-up—'Guilio Nuccio', H. S. Putnam
Best 3 Non-reticulata Hybrids—'Elsie Jury', Sergio Bracci
Best 3 Other Species—Kogyoku, Mr. and Mrs. L. R. Shuey
Best 3 Other Species Runner-up—'Hiryu' (Australia), Mr. and Mrs. Robert McNeil
Best Treated Japonica Seedling—No. 4, Mr. and Mrs. Lee Gaeta
Best Non-treated Reticulata Seedling—A. L. Gunn
Best Collector's Tray—Mr. and Mrs. W. F. Goertz

THE ART OF GRAFTING

Alvin L. Gunn
Lynwood, California

The season in which most Camellia hobbyists do their grafting is here. The summer growth has hardened months ago. Now is the time to graft the varieties which were show soppers. Don't be shy about asking one of the big collectors if they can spare wood on a particular variety. You will find if you visit these collectors they will probably give you more scions than you want.

To save scions wet the inside of a plastic bag then pour out the water. This will leave small beads of water on the bag. Put the scions in the bag and press the bag flat to get as much air out of the bag as possible. Then tie the open end closed with a wire tie or a rubber band. This may be kept in the refrigerator for an indefinite time or until you have time to graft them all. There is some unconfirmed talk that *Reticulata* and some Hybrid scions won't keep long.

The selection of understock is the next step. We usually say don't graft on recently fertilized understock and don't graft on sick or weak understock. Seedlings or rooted cuttings make good grafting stock. Better still, cut off a plant in your collection which doesn't do well in your area, or isn't as good as it was touted to be, and heaven knows there are plenty of those. Be sure that the reason is not because of an unhealthy plant.

You will need sharp clippers or a saw to cut the plant off four to six inches above the soil level. (Fig. 3.) A sharp knife or a single edged razor blade is used to trim off any ragged or bruised edges caused by the clippers or the saw. (Fig. 4.) Place a knife across the center of the understock forcing the knife to split the understock about one and one half inches. (Fig. 5.)

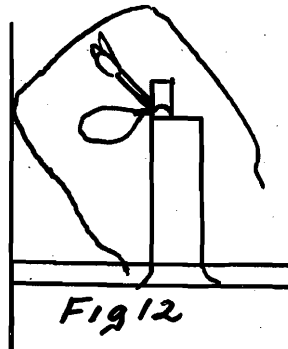
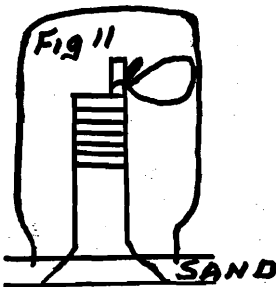
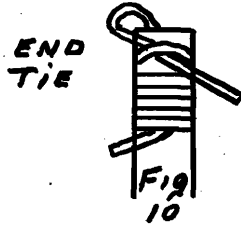
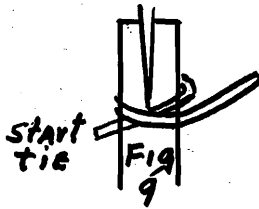
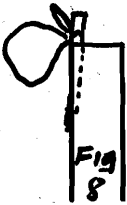
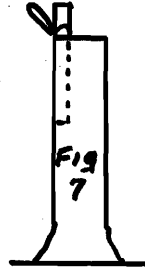
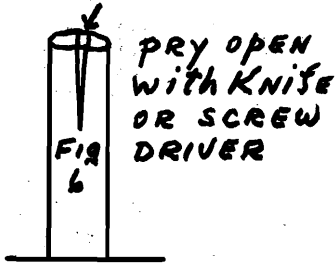
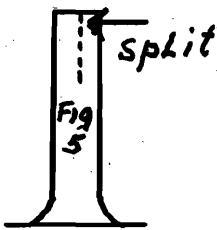
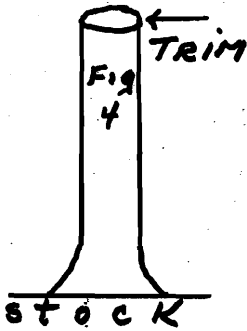
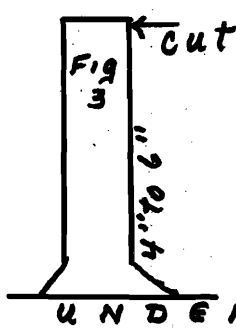
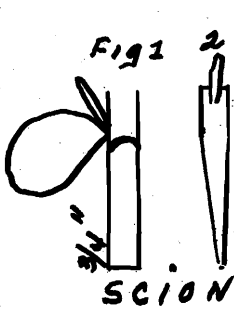
Cut the scion wood about one inch

or three quarters of an inch below the bottom leaf. Then trim the scion into a wedge shape starting just below the level of the leaf. (Figs. 1 & 2.) Be careful not to touch the cut parts of the scion as the oil from your fingers could hinder a take.

Now for the accurate part of grafting. Force the tip of the knife or a thin long handled screwdriver into the top slit of the understock and pry it open so the scion may be put into place. While you hold the split open, place the scion into the split far enough to leave about a quarter of an inch of the trimmed part of the scion above the top of the understock. (Fig. 7.) The bark of the scion should be flush with the bark of the understock unless the bark of the understock is very thick, then match the cambium layers (the dark green just under the bark). Some of the old timers tilt the scion just a little. (Fig. 8.) That way the cambium layers cross which is enough to get a take. Remove the knife when the scion has been placed just right. I use a magnifying glass to check it.

To tie the scion in place firmly use a grafting rubber. Start the tie below the bottom of the scion crossing the first loop of the rubber (Fig. 9) to hold it in place while the rubber is wound around the understock until the top is reached. Put your finger under the last loop and pull it out enough to thread the end of the rubber under the last loop. (Fig. 10), then run your finger around the last loop as you pull on the end. Try it a couple of times for practice, it is easier than it sounds. If there are no grafting rubbers available, cotton string, plastic tape or almost anything which has a little give to it may be used.

(Continued on page 14)



The next step may be omitted but it appears to serve two functions. One, to suppress the formation of mildew and two, it seems to cause a faster and heavier callusing of the understock when a rooting powder with a fungicide added is dusted over the cut portions of the graft. Another step which may be omitted is pouring a layer of sand over the soil surface. When a quart or gallon jar is placed over the graft the mouth of the jar sinks into the sand and make an air tight seal. (Fig. 11.)

Moisture should form on the top inside of the jar in a few hours, which lets you know there is a good seal.

The graft may now be placed where it gets light but no direct sunlight as the sun will burn the leaves. If the graft cannot be moved to a suitable location place something over it to shade it.

Little needs to be done to the graft until it starts to grow, usually in three weeks to three months depending on the time of year the grafting was done. If moisture forms on the top of the understock, blot it dry with kleenex and leave the jar off for an hour when it is cool. Wet the inside of the jar before replacing it. The graft needs very little water. If it looks dry pour a cup of water on the soil.

When the growth bud has grown enough that the form of the new leaves can be seen, remove the jar.

Look at the graft occasionally to be sure the new growth hasn't started to wilt. If it does wilt wet the inside of the jar and replace the jar for a day or two, then tilt the jar (Fig. 12) to let a little air under the jar. If it wilts again cover it again and repeat in a couple of days. When the jar has been tilted for a few days without the new growth wilting you may remove the jar. Watch it closely for a few hours. Once you start to remove the jar give the plant a good drink of water. The new growth will need it. When the graft has been free of the jar for a week the plant may be placed in the lath house. Usually we graft on unfertilized understock so I like to put a tablespoon of cotton seed meal to a gallon sized container when placing it in the lath house. Most hobbyists will disagree with this procedure. I find that I get a stronger, healthier plant.

Camellia Seeds

Mark Anthony, Superintendent of Descanso Gardens, says that he kept 100 japonica seeds, picked October 1st, in an envelope in a refrigerator until March 20th before planting them. He planted them in a mix of sand and peat moss and put them in a glass house without heat. He obtained 60% germination. They were slow in sprouting but were growing lustily in October.

STRONG

VIGOROUS

SEEDLING

UNDERSTOCK

SASANQUA and JAPONICA

McCASKILL GARDENS

25 SOUTH MICHILLINDA AVENUE

PASADENA, CALIFORNIA

CALIFORNIA CAMELLIA SHOW SCHEDULE—1972

Feb. 12-13	San Diego Camellia Society	Conference Bldg. Balboa Park, San Diego
Feb. 12-13	Peninsula Camellia Society	Veterans Memorial Bldg. 1455 Madison Ave., Redwood City
Feb. 19-20	Temple City Camellia Society	L. A. County Arboretum Lecture Hall, Arcadia
Feb. 19-20	Santa Clara County Camellia Society	Student Union Bldg., San Jose City College, San Jose
Feb. 26-27	Pomona Valley Camellia Society	Pomona First Federal Savings & Loan Assn. 399 N. Garey Ave., Pomona
Feb. 26-27	Delta Camellia Society	Pittsburg High School Pittsburg
Mar. 4-5	Southern California Camellia Council	Descanso Gardens La Canada
Mar. 4-5	Camellia Society of Sacramento	Memorial Auditorium 15th & J Sts., Sacramento
March 11-12	Camellia Society of Kern County	Mall of Valley Plaza Shopping Center Ming and Wible Road, Bakersfield
March 12	Central California Camellia Society	Fresno City College 1100 E. Weldon, Fresno
March 1-12	Northern California Camellia Society	Sun Valley Shopping Center Concord
March 18-19	Camellia Society of Modesto	Palm Court of E. & J. Gallo Administration Bldg., Modesto
March 25-26	Sonoma County Camellia Society	Doyle Student Center Santa Rosa Junior College Santa Rosa

1971 CROP — CAMELLIA SEEDS

JAPONICA SEEDS

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

\$3.75 per 100 (minimum order)

SASANQUA SEEDS

Sasanquas are excellent for grafting understock. They grow faster and have good roots. **\$1.50** per 100 (minimum order)

No Reticula and Hybrid Seeds

SOUTHERN CALIFORNIA CAMELLIA SOCIETY

12022 Gertrude Dr.

Lynwood, Calif. 90262

FORM AND COLOR

Douglas G. Thompson

(Notes on a talk given at Pacific Camellia Society, November 4, 1971)

These remarks will be directed toward the evolution of form and color in camellia flowers.

To perpetuate an old saw, there is no accounting for taste. It is entirely personal, based on individual, in-born preference. Each of us applies his own taste to select or discard according as he likes or dislikes. A famous person once said: "What do I consider in choosing a camellia? First, form, then color and texture. A large flower, all things being equal, is better than a small one, but a small flower more beautiful in form and color is better." That is quoted from the Southern California Camellia Society Official Bulletin of February 1947 in an article by William E. Woodroof, 24 years ago. He also said, "My favorite form of flower is a huge red and white semi-double; all men are suckers for red." Thank you, Bill, for 24 years of sheer down-right consistency in an ever changing topsy turvy world.

All things being equal, we prefer large flowers; and yet, large flowers are not always suitable for certain purposes—arrangements, corsages and others.

Last year from Porto, Portugal, Leslie Riggall wrote, "Although there has been a craze for large flowers in America since the last war, I notice a dawning realization that color and form are more important! I find that Californians are much less inclined to be hypnotized by mere size and, indeed, within the last ten years there is a growing interest in miniatures along the Pacific Coast. Ten years ago any small flowered camellia would have been used automatically for grafting—more recently good ones have been preserved and there are exquisite miniatures now."

All things being equal, the equal-

izers are surely form and color. When Mr. Woodroof asked me to review the evolution of form and color, I decided to look into the reasons why majority preferences popularized some flowers and rejected others.

Look first at forms and colors of the previous century. The nineteenth century peak of camellia popularity was reached about 100 years ago, followed by a 20 year decline until by 1890 scarcely any interest remained. First introductions from the Orient were single flowers. More complex forms arrived soon after. But from earliest days the preferred and popular flower was the regularly imbricated formal. When the camellia was made prominent as a florist's flower, the regular imbricated shape became the standard. In fact, floral arbiters of the eighteenth and nineteenth centuries considered loose semi-double and anemone types to be "uncouth, unworthy, worthless and good for nothing." Here is the influence of the cut flower trade, in days of uncertain refrigeration they may have kept better. They were surely easier to tailor into the formal bouquets and corsages of the day. Even in the 1940's when I bought an occasional camellia corsage for Margaret, it was a formal 'Pink Perfection' or 'Alba Plena' that was offered. Similarly we were told that colored varieties followed a narrow course patterned after tastes in roses. The records do show, however, that red and pink candy striped variegations were very popular. Today I can safely say that a red and pink candy striped fully imbricated formal camellia would be universally disregarded, if not down-right despised.

I was fascinated to learn that serious classification efforts began as early as 134 years ago. Elaborate

systems were proposed. Not only that, but the earliest Western World effort was surprisingly like the classification we use today. Abbe Berlese of the court of France, an ardent camelliophile, in 1837 wrote his *Monographie du Genre Camellia* in which he proposed six flower forms: regular single, regular semi-double, regular full, irregular double, irregular semi-double and irregular full. Seven years later he had second thoughts. He drew sketches and prepared another classification which he notes was . . . "according to similarity of other flower forms". There were seven this time: simple, anemone form, peony form, rosi-form semi-irregular, rosi-form regular, renuncula-form and warati-form. The waratah is preferentially known as *Anemonaeflora*. Berlese meant this warati-form to designate certain irregular shapen anemone-form flowers which he considered inferior.

At about the same time, in 1843, Dr. Luigi Catta of Torino, Italy in his *Camelliographia* suggested four main groups which he called "tribes": simple, partly double, deformed and waratah.

Abbe Berlese also suggested in his 1837 monograph a complicated scheme for color classification in which he distinguished between a first and second gamut.

First Gamut: pure white, to rose, to cherry, to amaranth, to purple.

- a. Self or solid colored
 - 1. Pure white
 - 2. Clear rose
 - 3. Clear cherry red
 - 4. Deep cherry
- b. Bi-colored
 - 1. White ground—striped or spotted rose
 - 2. Rose ground—striped or spotted cherry red
 - 3. Ground clearer deep cherry—striped or spotted white

....*Second Gamut*: yellowish flesh (dingy white), to flesh, to deep orange, to poppy color.

- c. Self or solid colored
 - 1. Flesh colored
 - 2. Orange red
- d. Bi-colored
 - 1. Ground yellowish—flesh striped with white
 - 1. Ground orange red—clearer deep-striped or spotted red

His Second Gamut seems to contain the flawed or dirty colors, grays, faded, of poor chroma. His First Gamut recognizes the clear clean colors so much sought after today. Abbe Berlese is surprisingly modern. If he stood here tonight, 134 years later, we would be in general agreement with his views.

In 1843, H. S. Wilder introduced *Wilderii*, a favorite of the time, by saying, "What gives this flower its great excellence is its broad round petals, with scarcely a notch of serration at the edge, and retaining a full round bosom at the center, when fully expanded". Here we observe again the preference for regularity of form.

A few years later in Sacramento the demand was for white camellias, formals if possible. They were standard flowers for funerals. Later we read that "a white camellia in her hair was standard for ladies in gay Sacramento at gay parties and dances, fully imbricated formal varieties being most suitable". In our day gardenias have stepped in to serve the dual functions noted here.

In 1855 across the World in Florence, Italy we hear from Cesare Franchetti, "The varieties which are most beautiful and most sought after by the intelligent amateur of good taste are the imbricated forms giving special consideration to regularity and perfection in the arrangement of petals, the brilliance of color, the predominance of veining and variegation." Look out! Here's that candy striper again! Here again we seem to feel the influence of the commercial cut flower arbiter. The intelligent

(Continued on next page)

amateur of good taste—or bad—may have had little choice.

Wolfgang Korner of Leipzig University tells us, "In Germany the camellia zenith was reached in 1870 and it was definitely the flower of fashion in Europe for the next two decades. By 1890 it was replaced by roses, carnations and chrysanthemums as cut flowers. The extensive assortment which at one time had amounted to over 1100 varieties was so reduced that after World War II, in Germany 90% of the supply was 'Elegans', 'Lady Campbell', 'Alba Plena' and 'Mathotiana.'" He goes on to say, "Nearly all single flowering and semi-double varieties which might have suited the new taste in fashion disappeared, though it is possible a favorable selection of varieties could have stopped the retreat."

Perhaps interest waned because the commercial suppliers and florists, seeking a stabilized product, frowned on innovation. Perhaps their flowers possessed a certain sameness, a sterility inherent in formals. The camellia became static, stale and propagators did not explore ways of sustaining public interest but turned to other types of flowers. In mind's eye one can picture the forlorn candy striped formal flower perched in the porcelain dish in the dim light from the veloured window beside the horse-haired velvet chair, its petals dropping onto the rosewood table one by one. Then with the last fallen petal—oblivion.

For a whole generation the camellia was ignored. Varieties were lost, nomenclature confused. Revival a generation later began first with attempts to recover lost lore, reorder garbled records, and re-establish the survivors left over from yesterday, mostly unknown by name or origin and simply sold as red or pink or white. But revival was not enough. Almost at once a great new surge of creativity broke out among middle class collectors who formed camellia

societies. A new phenomenon appeared. The camellia was taken over by the amateurs, aided by enthusiastic nurserymen in Western and Southern U. S. A. New varieties were developed for personal pleasure. Never again were they important flowers of commerce. A multitude of new forms and colors were created from mutations and seeds, and carried quickly far and wide by Twentieth Century communication systems. A new generation of camellia fanciers created new kinds of flowers. Harold Hume commented on this in "Camellias, Kinds and Culture". He said, "there has been a definite breaking away in newer trends from the old formal flowers of japonica so prized at one time." He saw two principal reasons: the complete double imbricated varieties were more difficult to obtain by mutation or from seeds; the growers and collectors became more interested in informality in shape and color. It was Mr. Hume who pointed out in 1948 that, "doubling of flowers is brought about by changing over (metamorphosis) of stamens to petals or petal-like parts. Stamens in single flowered camellias are numerous and joined together at the corolla, laying the ground work for the many forms found in the flower and the almost endless varieties in petal forms." This possibility of unlimited metamorphosis captured the collector's interest and held him enthralled. Mr. Hume did propose a system of classifying the flower based on anatomy, for simple and more complex flowers according to the amount of doubling; from simple to incomplete double to complete double, a bit too complicated to go into here.

By 1952 camellia shows were using either one of two methods for distinguishing forms. The first method was according to the amount of doubling, a la Hume. The second was according to similarity to other flower forms a la Berlese. Southern California Camellia Society favored

the second method, adopted it in Camellia Nomenclature, and made it the undisputed modern standard; single, semi-double, aneomne form, peony form, rose form double and formal double. Lately we like to distinguish semi-doubles as regular or irregular and peonies as loose or full. And there we suppose the matter finally rests. It just seems easiest, as Berlese surmised with commendable intuition, to visualize the camellia flower in comparison with other familiar flower forms.

The popular forms today are irregular semi-double—and especially with rabbit ears—and the loose peony. In these forms larger flowers seem to result in size undreamed of in the past, even without gibberellin. The *reticulatas* set a new style in loose informal shapes. What has really happened is that the static, restraining, ultra-refined, well mannered, suppressed proper flowers of yester year have been supplanted by dynamic, big, vigorous, blatant, bold, irrepresible flowers of today, in rakish forms to shock the mid-Victorian. Fine, clean, new colors have appeared—spectrum reds, high chroma and silvered pinks, Williamsii lavenders, sweet peas, and new colors yet to come from our great new game of hybridizing.

Color words are relative, not absolute. There is the physical fact of reception of light waves by the brain. But one's sense of color is highly in-

dividual. Total impression from babyhood, with psychological influences, determines how we interpret the light waves. In our perception of color, perhaps the most important single influence is reflection. How does the petal arrangement and flower shape reflect light waves from it as an object, to give a yellow illusion from stamens reflected from intermixed white petals, for example. We receive dynamic pulsations of reflected white from twisted rabbit ears as light waves bounce back and forth between petals modifying basic chroma and adding complete color harmonies. We may not agree on words to describe a color but we all respond to color dynamics—inextricably linked with the dynamic forms of our modern flowers.

Roy Thompson expressed this thought better than I ever could. He said, "We view the flower as an arrangement of parts. In viewing the formal double, the eye cannot look at individual petals, one after the other, but tends to see all the petals united together in one unit." If I may interject a comment, this expresses exactly the concept of the fixed or static aspect of the flower. Roy went on to say, "But if the flower is a big petalled semi-double, the eye is stopped by one big petal after another and tends to see the flower in an arrangement of its parts, discov-

(Continued on page 24)

RELEASING

C. M. WILSON SPLENDOR
MRS. D. W. DAVIS DECANSO
CARNIVAL PRINCESS

ROYALTY
CHITTAGONG
THREE DREAMS

**NUCCIO'S
NURSERIES**

3555 CHANEY TRAIL
ALTADENA, CALIFORNIA 91002
Phone 794-3383

(Closed Wednesdays and Thursdays)

CAMELLIA HYBRIDS

Julius Nuccio

(Notes on a talk given at Pacific Camellia Society on December 2, 1971)

It has reached the point where all camellia growers are interested or becoming involved in camellia hybridizing. There are good reasons for this. We have turned about every corner in obtaining our new varieties from chance seedlings. In the japonicas we have about everything we could want in the way of size, shape and colors, except, of course the yellow that we all want. The reticulatas give more hope, particularly because of the opportunities for chance crosses with other species. Looking at the entire picture over the last ten years, however, the result is low when we think of the number of good chance seedlings in comparison with the many thousands of seedlings that have bloomed.

There is another reason for selective hybridizing that applies to both the nurseryman and the amateur collector; namely, space for storing the seedling plants. Consider, for example, making five good crosses with a purpose in mind. You will get five seed pods with say 25 seeds. You can graft them and have flowers in three years. This is certainly a lot different from the space that is needed for the number of chance seedlings that would be required to obtain less than the same end results.

A person who embarks on a program of camellia hybridizing should have something definite in mind before he starts. We at Nuccio's have not done a good job in this respect. We started out rather hit or miss but are changing about and are now on a program of having reasons for the crosses we make. There is room among the reticulatas alone for obtaining the style of flowers that we want. We do not like the reticulata shrub, however, so we are crossing reticulata with japonicas, sasanquas

and other species with the hope of coming up with a good flower of reticulata style on a good looking shrub. The field is wide open.

Fragrance is something else we all want. I understand that Dr. Clifford Parks came up with some fragrant flowers in his work at the Los Angeles County Arboretum. The flowers are not up to our standards but they will provide a basis for further crossing and something might result from his start. I visited Toichi Domoto in Hayward in the Bay Area recently. He is going out of business but is still interested in fragrant camellias. He crossed lutchuensis times 'Tinsie' and came up with five good flowers, all fragrant. I am sure that we can do much along this line if we will go at it.

Another thing that we need is early blooming varieties, particularly for landscaping. We need camellias that will bloom in October, November and December, a period in which we are short of flowers for garden bloom.

Dr. Parks did a lot of work at the Arboretum to obtain a yellow camellia, all without results.

We do not consider ourselves to be experts in hybridizing techniques at Nuccio's, therefore I shall not tell you specifically how we do it. Practically all of our introductions have been of chance seedlings. As I have indicated, however, we shall be more purposeful from here on. We are seeking good flowers on good shrubs, varieties for the garden as well as for the collector. We believe that camellias for the garden have been sadly overlooked from the nurseryman's point of view; there is a big field there for development. A sound program of hybridizing will always produce flowers that the collectors will desire for showing in camellia shows.

In seeking reticulata-like flowers on a good plant, we are using what we call a shot-gun method; that is, we are mixing pollen. We are mixing pollen of good varieties of japonica, reticulata and sasanqua and are using this mixed pollen with desirable seed-bearing varieties. This pollen mix can also include that of other species. We have used some of the species and plan to do more. We had 40% success in pollination last year with mixed pollen, which is more than we had been getting.

Saluenensis has been used for many years, with great success. The nomenclature book is full of varieties with saluenensis parentage, all with lavender-like shade of 'Donation'. We know what it will do and for this reason are not including it in our pollen mix. Also, it is very dominant and might have too much influence. We are seeking something new and different and therefore are confining our use of the species to those that have not had this thorough testing.

Irrawadiensis has never shown petal blight in our nursery, either on the species plants themselves or on crosses. We plan to use more of its pollen.

As I have said, we use our mixed pollen with "desirable seed-bearing varieties". When breeding for landscape, use pollen of such varieties as 'Donation'. It may not be known that 'Donation' is the leading seller of camellias for landscaping. 'Elegant Beauty' is coming up in our sales. 'Valley Knudsen' will be here for a long time for landscaping. 'Rose Parade' is starting to bloom now and it will be popular. Add to this landscaping group two new varieties: 'Water Lily' and 'Dr. Louis Pollizzi'.

When breeding for size of flower, use the big flowered varieties such as 'Reg Ragland', 'Guilio Nuccio', 'Drama Girls', 'Mrs. D. W. Davis', 'Adolphe Audusson' and 'Gigantea'.

Good seed-setting varieties include 'Crimson Robe', 'Tali Queen',

'Buddha' and 'Confucius' in the reticulata group and 'Lovelight', 'Silver Waves' and 'Dear Jenny' among the japonicas.

Sometimes a new variety must be given time to mature. 'Milo Rowell', a 'Crimson Robe' times 'Tiffany' cross, was disappointing to us in the beginning. It did not size up as we thought it should. Last year, however, it went to town with good plant growth and beautiful flowers of over five inches. We can learn a lesson here that we should not judge a new variety of promise until it has had time to mature.

We apply the pollen immediately as soon as we emasculate the flower, then go back and do it again a few days later. We cover the seed pods and let them ripen on the plant. Species seeds ripen later than japonica seeds do and it is important that they be permitted to ripen before they are picked. We now have on the plant, in December, seed pods of irrawadiensis, granthamiana and hongkongensis. We have learned from our experience that we lose seeds when we pick the pods too early.

We approach this business of hybridizing on the basis that we get to the flower first, and we do not protect it against the bees before we get to it.

As to records in using mixed pollen, we keep straight only the name of the female parent. After all, we are mostly interested in the flower and plants from the point of view of nurserymen.

VIRUS (Continued)

- Genetic and virus induced in "Camellia Culture", pp. 300-315. Edited by E. C. Tourjé. The Macmillan Co., New York.
7. Plakidas, A. G. 1960. Transmission of the color-breaking virus through root grafts. The American Camellia Yearbook. pp. 42-44.
 8. Tourjé, E. C. 1950. Virus transmission through grafting. Camellia Research, (So. Calif. Cam. Soc.) 68-71.

CAMELLIAS — ESPALIERED

(Reprinted from September 1971 NEWSLETTER of New South Wales Branch of Australian Camellia Research Society)

Springtime will return soon, as faithful as ever, rousing potential new growth from dormancy to delicate new foliage. ESPALIER is one way to control and train this new growth—on a wall, fence, lattice, on its own branches. Many varieties can be used but species sasanqua offers most, including 'Red Willow', 'Shishi Gashira', 'Shishi-fukujin', 'Showa-no-sake', 'Gay' and lots more. On this interesting topic, Annette Riddle has supplied the following from her valued experience:—

"Let us presume you are training a camellia already established in a pot or in the ground as an espalier and you have chosen a variety which is suitable to the space available. After about two years, your plant has a straight well-staked mainstem and several healthy laterals. With a pre-arranged, ultimate height in mind, it is now necessary to train the laterals to form the main side branches. Strong stakes, preferably metal, should be placed about three feet each side of the trunk and strong wire strung from one to the other passing behind the main trunk, one length of wire for every foot of height is ideal. As camellias are relatively slow growers, further extensions of the training wires need not be put on until later. Choose laterals which correspond approximately to the wires and tie loosely.

If your plant does not know about producing laterals in even pairs, some firm persuasion will be necessary in the form of several ties. Be quick and ruthless in eradicating any unwanted shoots; check that your main trunk does not fork at the top.

When espaliering against a wall or fence, watch out for any growths which appear on the wall side of the stems. The shoot that develops behind

the plant today may be very difficult to prune away in a year's time.

At this stage, shorten back any side shoots on the laterals to just above a growth cycle—not a cut just anywhere along the shoot, please, or you will end up next year with a lot of runaway stems. If the shoots are short new ones, just rub out the growing tip. Remember that you are training your plant in a way that is agin' nature and it will seek to frustrate you at every opportunity in an endeavor to reach for the skies.

Use your thumb to rub out all unwanted growth buds—this will save you extra work and your plant from later surgery.

However, the terminal buds on the laterals and the mainstem are very important and should be protected from "wogs" by spraying with your favourite all-purpose insecticide.

When the mainstem has reached the desired height, cut off all further growth past the two top laterals. Any attempt to save time by using the leader as a lateral will result in having one top branch of your espalier much more vigorous than the rest and a misshapen design will result.

One last caution, inspect the trees regularly, re-new broken ties and loosen ties that have become too tight.

When in due course the camellia has trained to its full height and width, the laterals should be stopped and the flowering shoots allowed to bush out to whatever degree of density is desired. By this time, your secateurs will have worn out and your thumb may be callused but the espalier will be just "beaut".

BRING IN A NEW MEMBER
TO YOUR CAMELLIA SOCIETY

NEW ZEALAND CAMELLIA SOCIETY

AWARDS OF GARDEN MERIT

As was reported in the October 1971 issue of *CAMELLIA REVIEW*, the New Zealand Camellia Society has made Awards of Garden Merit to varieties of camellias that have proved to be desirable for garden landscape. In making the awards no undue emphasis has been placed on the size or dramatic appearance of flowers and the varieties have not been selected on the basis of their performance in camellia shows, though many have done well there. The requirements were that they should be:

1. Good garden plants when grown under average conditions.
2. That they should flower freely and reliably and not be subject to undue weather damage.
3. That they should be sufficiently well distributed to enable reports to be obtained over a wide geographical area.
4. That they should be reasonably easy to obtain.

The Awards Committee asked 50 of the leading camellia growers in New Zealand and the Society's branches to make nominations. The Committee chose the following. On many varieties there was great unanimity. Many new varieties were nominated, some of which may appear in later lists of awards when they can satisfy the requirements of wide distribution.

RETICULATA

CAPTAIN RAWES
 PAGODA
 PURPLE GOWN
 CRIMSON ROBE
 WILLIAM HERTRICH
 BUDDHA
 CONFUCIUS

JAPONICA

GUILIO NUCCIO
 TIFFANY
 MOSHIO (FLAME)
 R. L. WHEELER

BOKUHAN (TINSIE)
 DR. TINSLEY
 LAURIE BRAY
 GRAND SULTAN
 DIXIE KNIGHT
 K. SAWADA
 BERENICE BODDY
 GUEST OF HONOR
 CORONATION
 CARTER'S SUNBURST
 ONETIA HOLLAND

HYBRIDS

DONATION
 E. G. WATERHOUSE
 BARBARA CLARK
 PHYL DOAK
 ELEGANT BEAUTY
 LEONARD MESSEL
 WATER LILY
 DEBBIE
 ELSIE JURY
 FAIR LASS

Cold Weather Forecast

Hugh McKellar of Ivanhoe, California, a member of the Central California Camellia Society has a "quite extensive" camellia hobby and is forced by the need for folding money to support the hobby to raise a few hundred acres of citrus. Cold weather is the main concern of the citrus grower and they rely on weather forecasts from the Weather Bureau. Mr. McKellar has told *Camellia Review* that the Weather Bureau has forecast for late January 1972, temperatures in the late teens, at least in the lower 20's. He has suggested that this forecast will be of interest to camellia people because cold weather at that time would cause loss of buds and flowers and thus adversely affect the number of show flowers for the February and March shows.

New Show Division

The Central California Camellia Society will introduce a new Division for multiple bloom entries in their annual show at Fresno on March 12, 1972, replacing the Classes for collectors which they have had in former shows. All entries in this Division will consist of 9 blooms of different varieties classified by form or by color (not size) such as the following.

- All formals or rose form
- All semi-doubles
- All singles
- All whites
- All blush and light pinks
- All deep pinks
- All rose colored
- All reds
- All pink and white variegated
- All red and white variegated.

"Different varieties" will include each sport as a separate variety; therefore, 9 different Betty Sheffields would qualify as a semi-double exhibit. There will be no limit as to the number of such entries that an exhibitor may make.

FORM AND COLOR (Cont.)

ering fresh items of interest as it proceeds." Notice here he developed ideas of motion—of the dynamic concept of the flower. Then he said, "the great advance of the last quarter century has been the development of the big petalled semi-doubles beginning with such flowers as 'Frizzle White' and moving on to 'Reg Ragland' and 'Guilio Nuccio'." They have more readable features, more variations of line and feel. The so-called rabbit ears lend vitality, alertness, jauntness, movement, stance, artistic definition. Each flower is a flower arrangement, suggesting boldness, high spirits, decisiveness, openness, breadth, positiveness, optimism, hope, cheerfulness, courage—in a word—style!

CAMELLIA CULTURE (Cont.)

exhibiting their blooms in the various annual shows, or in placing them on Camellia Society meeting display tables, it is important that their blooms be in perfect condition and free from blemishes, torn petals and from brown streaks or spots. Most of these imperfections are caused by the flower rubbing against the adjacent leaves or branches. To prevent this from occurring, the use of wooden clothes pins is recommended. If a leaf or small branch is too close to a nearly opened flower, the leaf or branch should be removed or pinned to another leaf or branch in order to avoid any possible contact with the flower. This small amount of work may pay big dividends. It may represent the only difference between your flower and that of another exhibitor insofar as being placed on a Show Court of Honor Table.

And, last but not least, give your plans a feeding of low nitrogen liquid fertilizer of your choice to promote the growth of the buds which are yet to bloom. The nitrogen should not exceed 2%.

Nomenclature Book Price Not Changed

The price of the new 1972 CAMELLIA NOMENCLATURE has not been changed despite an increase in the cost of paper and printing. The Board of Directors of the Southern California Camellia Society made this decision on the basis that all of the printed copies will be sold, which was not the case for the 1970 edition. The S. C. C. S. Board urges all camellia hobbyists to take an interest in maintaining the price as low as possible by suggesting to people whom they see using an old edition that they purchase the new one. \$2.50 is a small price to pay for the latest edition of CAMELLIA NOMENCLATURE.

Directory of California Camellia Societies

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

***CAMELLIA SOCIETY OF KERN COUNTY**

President: Bob Krause; Secretary: Lemuel Freeman, 209 S. Garnsey Ave., Bakersfield 93309
Meetings: 2nd Monday Oct. through Apr. at Franklin School, Truxton and A St., Bakersfield

***CAMELLIA SOCIETY OF ORANGE COUNTY**

President: Thomas Scanlin; Secretary: Mrs. George T. Butler, 1813 Windsor Lane, Santa Ana 97205

Meetings: 1st Thursday Oct. through April at Great Western S/L cor. 15th St. and N. Main, Santa Ana

CAMELLIA SOCIETY OF SACRAMENTO

President: Richard Ray; Secretary: Mrs. Frank P. Mack, 2222 G. St., Sacramento 95816
Meetings: 4th Wednesday, Oct. through April in Garden & Art Center, McKinley Park, Sacramento

***CENTRAL CALIFORNIA CAMELLIA SOCIETY**

President: Donald Martin; Secretary: Mrs. Jack Evans, P.O. Box 108, Ivanhoe 93235

Meetings: Nov. 17, Dec. 15, Jan. 19, Feb. 16 at Mayfair School, Mar. 15 at Fresno State College

DELTA CAMELLIA SOCIETY

President: Aldo Maggiora; Secretary, Mrs. F. C. Hopper, 1016 Tiffin Dr., Concord 94521

Meetings: 3rd Tues. Nov. through Apr. except Dec. 7, in room B, Sun Valley Mall, Concord.

JOAQUIN CAMELLIA SOCIETY

President: Eugene Chesi; Secretary: Mrs. Ethel S. Willits, 502 N. Pleasant Ave., Lodi 95240

Meetings: 1st Tuesday October through April in Micke Grove Memorial Bldg., Lodi

LOS ANGELES CAMELLIA SOCIETY

President: Thomas Hughes; Secretary, Mrs. Haidee Steward, 130 S. Citrus, L.A. 90036

Meetings: 1st Tues., Dec. through April, Hollywood Women's Club, 1749 N. La Brea, Hollywood

MODESTO CAMELLIA SOCIETY

President: Mrs. Virginia Rankin; Secretary: Dr. J. Holtzman, 2987 Marshall Rd.,
Crow's Landing 95313

Meetings: 2nd Monday October through May in "Ag" Bldg. of Modesto Junior College

NORTHERN CALIFORNIA CAMELLIA SOCIETY

President: Robet. Ehrhart (act.); Secretary: Jules Wilson, 18248 Lamson Rd., Castro Valley 94546

Meetings: 1st Mon. Nov. through May in Claremont Jr. High School, 5750 College Ave., Oakland

PACIFIC CAMELLIA SOCIETY

President: Dr. John Urabec; Secretary: Mrs. A. L. Summerson, 1370 San Luis Rey Dr.,

Meetings: 1st Thursday November through April in Tuesday Afternoon Club House,
400 N. Central Ave., Glendale

PENINSULA CAMELLIA SOCIETY

President: Capt. John C. Nichols, U.S.N., Ret.; 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: Frank Burris; Secretary: Walter Harmsen, 3016 N. Mountain Ave., Claremont 91711

Meetings: 2nd Thursday November through April in First Federal Savings & Loan Bldg.,
399 N. Garey Ave., Pomona

***SAN DIEGO CAMELLIA SOCIETY**

President: Mrs. Althea Hebert; Secretary: Miss Edna Francis, 615 W. Pennsylvania, San Diego
92103

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 :John M. Augis; Secretary: Mrs. Helen Augis, 2254 Fairvalley Court, San Jose 95215

Meetings: 2nd Thursday Sept. through April in Hospitality Room, American Savings, 1285
Lincoln Ave., San Jose

SONOMA COUNTY CAMELLIA SOCIETY

President: Mrs. Alton B. Parker; Secretar: Miss Joy Monteleone, 505 Olive St., Santa Rosa 95401

Meetings: 4th Thurs. Nov. through April, except Nov. (3rd Thur.) and Dec. (to be decided) in
Multipurpose room, Steel Lane School, Santa Rosa

SOUTHERN CALIFORNIA CAMELLIA SOCIETY

See inside front cover of this issue of CAMELLIA REVIEW

***TEMPLE CITY CAMELLIA SOCIETY**

President: Milt Schmidt; Secretary: Mrs. Elsie Bracci, 5567 N. Burton, San Gabriel 91776

Meetings: Nov. 14 (Fri.), Dec. 17 (Fri.), Jan. through Apr. is 4th Thurs. in Lecture Hall of Los
Angeles County Arboretum

SOUTHERN
CALIFORNIA

CAMELLIA

Society, Inc.

12022 GERTRUDE DRIVE
LYNWOOD, CALIFORNIA
90262



Return Requested

Bulk Rate
U. S. POSTAGE
PAID
Permit No. 1524
Pasadena, Calif.

GEARY M. SERPAS
RT 1, BOX 99-B
LUGOFF, S. C. 29078