

*The*  
*Camellia Bulletin*

Volume 12, Number 1

October, 1958

*The*  
*Hybrid*  
*Camellia*



CAMELLIA x WILLIAMSII • DONATION

Published by

**NORTHERN CALIFORNIA CAMELLIA SOCIETY, INC.****OFFICERS****PRESIDENT**Walter H. Peterson (BEacon 3-3148)  
612 Marine St., Richmond**VICE-PRESIDENT**Howard E. Burnette (LUcerne 2-4304)  
18500 Center St., Castro Valley**SECRETARY**O. L. Davis (CLifford 4-4748)  
22 St. Stephens Drive, Orinda**TREASURER**R. N. Swope (ELgin 1- 4009)  
14823 Farnsworth St.  
San Leandro, California**DIRECTORS**

John H. Beers

Louis J. Giomi

Arthur M. Patterson

**PACIFIC CAMELLIA SOCIETY****OFFICERS****PRESIDENT**Dan H. Roberts  
11422 Ruggiero Ave., San Fernando**VICE-PRESIDENT**Douglas G. Thompson  
3162 Lindo St., Los Angeles, 28**SECRETARY**Gene Boyd  
819 E. Valencia Ave., Burbank**TREASURER**Edward O. Morgan  
850 N. Lafayette Park Place, Los Angeles 26**CAMELLIA SOCIETY OF SACRAMENTO****PRESIDENT**Erwin E. Nowak  
3117 Bertis Drive, Sacramento, California**SECRETARY**Miss Beulah Capers  
7501 - 2nd St., Rt. 3, Rio Linda, Calif.**VICE-PRESIDENTS**

D. Jackson Faustman, Mrs. Marie Erwin

**TREASURER**

Harold C. Rambath

**CAMELLIA SOCIETY OF SANTA CLARA COUNTY****PRESIDENT**Oscar E. Tomlinson  
1509 Camino Monde  
San Jose, California**SECRETARY-TREASURER**John J. Mendoza  
1170 Jefferson St.  
Santa Clara, California

VICE-PRESIDENT: Allen S. Eckendorf

**BULLETIN EDITORIAL STAFF****EDITOR**David L. Feathers  
1 Camellia Lane, Lafayette**ASSOCIATE EDITORS**Roy T. Thompson  
2723 Hermosita Drive, Glendale 8**ADVISORY BOARD**Woodford F. Harrison  
Harold L. PaigeRichard C. Brown  
1425-47th St., Sacramento

**The Camellia Bulletin**, in keeping with the fundamental concept of the amateur organizations it serves, is a non-profit enterprise published quarterly (Jan., Apr., July and Oct.) by the Northern California Camellia Society, Inc. Its principal objects and purposes are furtherance of the enjoyment and benefits derived from the culture of camellias and the dissemination of knowledge related thereto. By special arrangement with, and through the co-operation of, the Pacific Camellia Society, The Camellia Society of Sacramento and The Camellia Society of Santa Clara County, this Bulletin is also available in conjunction with membership, which is open to the general public upon application to the Secretary of any of the societies mentioned, at the respective addresses shown above. For full membership in the Northern California Camellia Society, Inc., and with respect to all persons resident in the counties of Alameda, Contra Costa, Marin, San Francisco and San Mateo, the annual dues are \$5.00—outside that area, limited membership privileges, including the right to all Society publications, are \$3.00 per year. MEETINGS are held on the first Monday of each month November through May, at 8 p.m. in the Claremont Junior High School Auditorium, Oakland, and include an informal flower display and refreshments. All matter regarding the content of the Bulletin should be addressed to the Editor. CHANGE OF ADDRESS should be reported promptly to your Secretary, as the Post Office will not forward periodicals.

Copyright 1958 by Northern California Camellia Society, Inc.

## INTRODUCTION

In the strict botanical sense, a "hybrid" is the result of crossing two different species and a simple dictionary definition extends this to cover "the offspring of two animals or plants of different races, breeds, species or genera". On the other hand, the result of a combination of two varieties within a single species, for purposes of differentiation, is termed a "cross".

Because it is often desired to impart into a new type qualities which are unattainable within a single species or breed, it is often necessary to go outside a particular line and attempt a "wide cross"—to hybridize. Thus, to withstand our hottest climate, cattle from India were bred with domestic stock in order to produce a hybrid breed more tolerant of high temperatures. So it is with plant life. If we would have real cold resistance in camellias, pronounced fragrance, or new colors, foliage and growth habits, we must go outside the basic japonica species because of its limitations in these respects. In fact, we may not even be able to achieve the desired ends within the entire genus *Camellia* and thus it may be found necessary to try the more difficult, if not impossible, crossing of two or more genera in the Camellia family. The possibilities in this respect are largely unknown but, so far as we know, no proof exists that it cannot be done.

There is the further fact that a combination of two or more species having different characteristics may result in offspring with accentuated desirable qualities—and sometimes the opposite, or a blend, may result. To illustrate: we may get a more vigorous plant but one that is more tender; larger flowers but fewer (both true of the *reticulatas*, generally accepted as being hybrids). Thus the mere fact of hybridity is not, in itself, an unqualified recommendation, for the job of breeding has not been completed until the bad faults have been bred out and the ultimate result is a plant that is universally satisfactory as a whole.

This issue deals with Hybrids and their source (species) exclusively and is an attempt to tell, in non-technical style, the

what, why and the wherefore of efforts to date in this field. The propagation and culture of camellia hybrids is so new and the knowledge and developments are proceeding at such rapid pace that it is safe to say special coverage of this nature would, if the finances of a moderate-sized society permitted, be justified on a biennial basis. For each year brings something new and exciting and, as interest is accordingly stimulated and spread, the almost limitless potentialities of the innumerable possible combinations begin to assert themselves to the point where, in a relatively few years, the output of camellia hybrids bids fair to rise to very impressive proportions.

Some may feel that we have too many varieties already and that anything which tends to enlarge the supply may merely complicate matters. We do not share this view. Knowledge and information already available make it clearly evident that we are well on the way to a broadening of the usage of camellias, not only in the sense of expanding the usage where they are now grown but possibly a geographical broadening, as well. In any event, it may be stated quite positively that we now have new colors, new flower forms, new foliage, new growth habits and, to a certain extent, an expansion of the early-blooming varieties.

Those to whom delicate color tones, graceful form and new and beautiful petal texture have especial appeal are going to be enamoured of the distinctive loveliness of many of the *saluenensis* hybrids, in particular. It is to be regretted, indeed, that the cost of color reproduction is so prohibitive in the case of a specialized publication. We have done the next best by reproducing herein the form of many and the foliage and growth habit of some of these new innovations. However, it is really the color, particularly in the case of those with the orchid tones, that is so absolutely different.

Systematic breeding of camellias through use of the species (and, who knows, perhaps even of the genera) is still very much in its infancy. In fact, the possibilities and limitations are, as yet, so

unknown that a difference of opinion between both hybridists and authorities was inevitable, and, to a certain extent, consequently is reflected herein. What can be accomplished will, without doubt, be determined more readily by the traditional process of trial and error than through debating what is or what is not logical or theoretically possible.

Although entirely new color shades have been developed, we still lack yellow, which is so vital to attainment of the magnificent gold, bronze, copper and apricot shades which distinguish the rose and the tuberous begonia. Nor do we yet have any real fragrance, although some of the new hybrids show great promise in this respect.

Nevertheless, we have a fair start. It does not take too much imagination to suggest there is a great similarity between, for example, the foliage of *C. sinensis assamica* (the Assam tea plant) and our new species, *C. granthamiana*. If, as has been reported, some of the former have a yellow flower, there may be a possibility of a cross—or perhaps *Tutcheria spectabilis* may hold the key, if not to yellow, perhaps to the development of a fall-blooming species. At least, we have the material at hand and how can we say it is impossible if we do not try?

Of this much you may be sure: within the next decade far more will be accomplished by way of development of new and better camellias than in any similar period in history. The tremendous interest that the societies have stimulated

in the growing of camellia seedlings gives assurance of that—whether it be japonicas or hybrids. So—leave a spot in your garden—you very likely will need it!

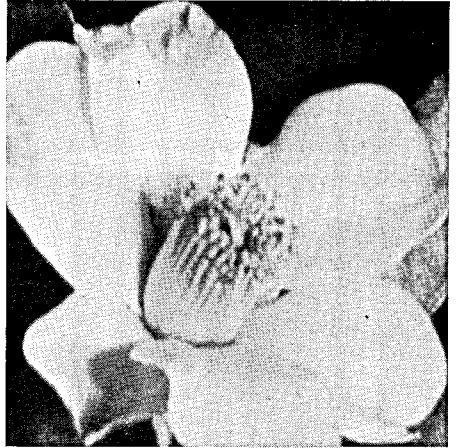


Fig. 2—Apple Blossom

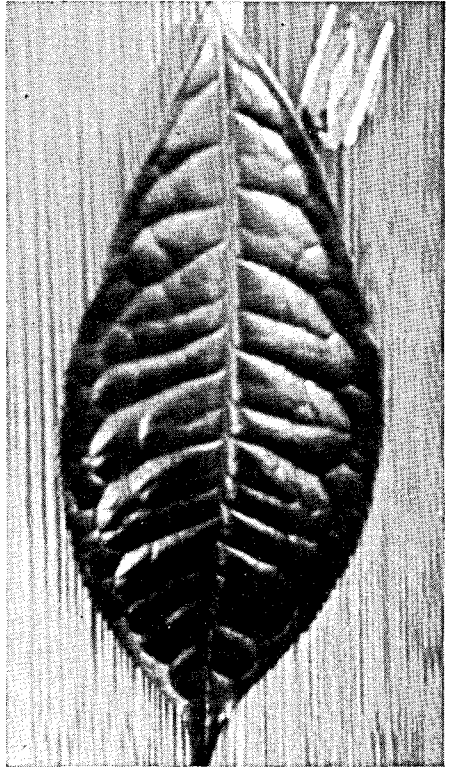


Fig. 3

*C. sinensis assamica* leaf measures 10"x4"

#### ACKNOWLEDGMENTS

It would have been difficult, if not impossible, to convey the desired impression in a work of this sort without illustrations. We wish to gratefully acknowledge the splendid co-operation of the respective authors in this regard and, to Mr. Morrie L. Sharp of Portland, Oregon, and *Camellias Illustrated* (Revised Edition), sponsored by the Oregon Camellia Society, go our particular thanks for their generosity in making available to us the cover color plate and Figs. 2, 4, 8, 10, 11, 12, 22, 23, and 24.—Ed.

## HISTORY OF INTERSPECIFIC\* HYBRIDS

Ralph Peer, Los Angeles, California

Ten years ago, when the first shipment of Kunming (Yunnan) Reticulatas arrived in California from China, it was generally understood that this was a collection of garden varieties of *C. reticulata*. Subsequent investigation, however, indicates that this is not true. Many of the varieties are interspecific hybrids of reticulata, but to prove this or to ascertain the exact parentage is beyond our present abilities. The species available for hybridizing purposes in the Kunming area are:

Reticulata	Saluenensis
Pitardii	Sinensis
Japonica	Taliensis

and possibly others not yet fully identified. According to Mr. T. T. Yu, the noted Chinese botanist who was born in Kunming, most of the reticulata varieties which he assembled and eventually shipped to California were in his opinion hybrids of *Reticulata* x *Pitardii*.

Aside from nature itself, the earliest known camellia hybridizers were the Buddhist Monks who practiced the art in the province of Yunnan in Southern China and in the adjoining country, known in ancient times as Tonkin.

There is little doubt that in modern times crosses between Reticulata and other species (particularly Pitardii) have been made by amateur gardeners in Kunming. Some of these interspecific crosses are sterile and they must be propagated by grafting.

When George Forrest, famous British plant explorer, visited the region around Kunming during the early part of this century, he apparently did not note the reticulata varieties growing in private gardens. He did, however, find many camellias growing in the wild state and lumped them all together under the name '*C. Speciosa*'. At that time there were no facilities to transport live plants over the long route from Kunming to England so Forrest made the transfer by sending seeds. When these seeds were grown in England, '*Speciosa*' was found to be ac-

tually a collection of the following species:

Reticulata	Saluenensis
Pitardii	Taliensis

In the comparatively unfavorable British climate Saluenensis joined readily with japonica to produce the hybrids later to become known as '*C. Williamsii*' and at least two crosses were developed from *Reticulata* x *Saluenensis*. Amongst the Williamsii are such superb varieties as '*Donation*', '*J. C. Williams*' and '*Mary Christian*' (a variety having multicolored leaves).

Strangely enough, the species Reticulata and Pitardii, which are said to unite quite readily in Kunming, are not known to have produced hybrids in England.

At Caerhays Castle, where the Williamsii originated, there was also the combination *Saluenensis* x *Cuspidata*.

*C. Cuspidata* is a Chinese species which grows wild in an area in Central China far distant from the native home of Saluenensis. This combination was named '*Cornish Snow*'. Another later cross of the same species was named '*Winton*'.

A few years ago Dr. Walker Wells, now residing at Selma, California, imported a small lot of Saluenensis seedlings from England. Amongst the lot he found what appeared to be a cross of *Saluenensis* x *Cuspidata* which was eventually named '*Sylvia May*'. Dr. Wells, at that time, lived in Berkeley, California, and this variety will be familiar to many readers of this article. In subsequent years '*Sylvia May*' has apparently combined with japonica to produce a whole new series of hybrids, many of which have been named. It is presumed that the components of these '*Sylvia May*' hybrids are *Saluenensis* x *Cuspidata* x *Japonica* but we have no scientific and certain knowledge as to what actually has happened.

In Japan, exact information about interspecific hybrids is not available. The

\* An Interspecific Hybrid is a combination of two or more species or two or more varieties derived from different species. Most garden varieties are obtained from parents of the same species.

two principal species growing wild in that country—japonica and sasanqua—have so little affinity for one another that no crosses are known to exist. Furthermore, their blooming seasons in general do not coincide. *C. Vernalis*, which has been known to Japanese horticulturists for at least two hundred years, was formerly thought to be such a hybrid. Again, however, there is no certainty and the exact position of the several varieties listed as being members of the species *Vernalis* is indeed quite doubtful.

Still another group of five or six varieties having similar botanical characteristics, which has been known in Japan for at least four hundred years, is grouped under the name '*C. Wabisuke*'. Here again it seems likely that we are dealing with a group of interspecific hybrids, but actual origin remains a mystery.

In recent years, scions have arrived in this country from New Zealand of two Japanese varieties, '*C. Purpurea*', (single) and '*C. Purpurea*', (double) with a request for identification. They are separate and distinct varieties seemingly related in some manner, as the color of the blossoms is an extraordinarily deep red—almost black. Upon comparison with *C. Kuro-Tsubaki* which we classify as '*japonica*', we find an obvious relationship. Inquiries through Japanese sources have

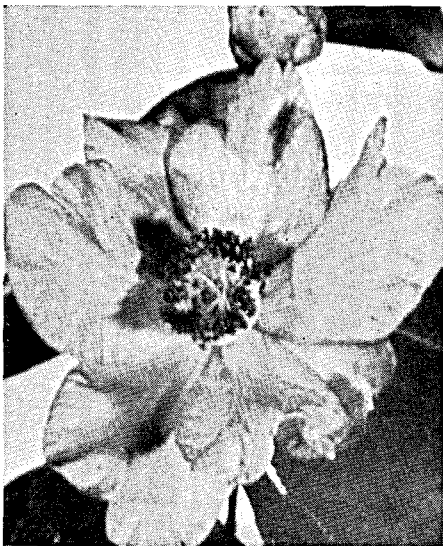


Fig. 4—*Reticulata*—wild form

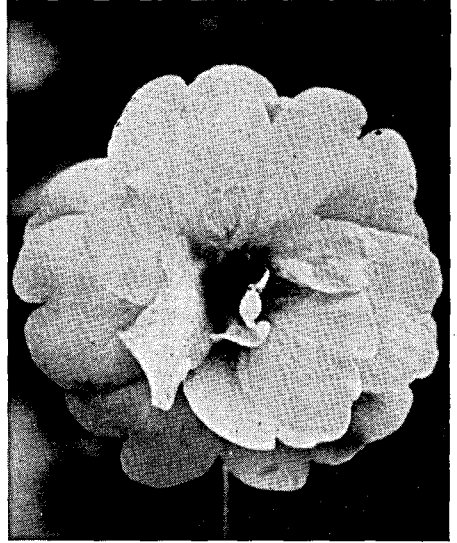


Fig. 5—*C. x williamsii* 'LADY GOWRIE'

Photo by John Reid, Sydney

brought forth the information that this group of varieties is identified there as belonging to the species *C. Iodina*, the wild form of which is unknown. Again the suspicion arises that we may be dealing with a cross between japonica and some other unidentified species.

Outside of China and Japan, interspecific hybrids have been produced to our certain knowledge in England, Australia, New Zealand and in the United States, mostly as the result of amateur experiments. The research carried on by Mr. David L. Feathers in his gardens at Lafayette, California, is focusing special attention on the great hybrid avidity of *C. Sa'uensis*. From this source he has developed forms and colors heretofore not found in camellia blossoms. This work, and that of several others both here and abroad, will surely lead to important results of great benefit to camellia lovers generally.

The point must be emphasized that only a small percentage of successful crosses between species will give useful results. An inquiring mind, infinite patience and a great deal of time and energy are required for this work. On a percentage basis the interspecific hybrids have been major contributors to our camellia heritage.

## NOTES ON CAMELLIA HYBRIDIZATION

J. Howard Asper,\* San Marino, California

Each year camellia fanciers are showing an ever increasing interest in hybrid flowers. This stems in part from the importation of several very fine species and particularly the beautiful varieties of the Yunnan *Reticulatas*. The first flowers to bloom, as a result of interspecific crosses, have been so exciting in both form and color that it appears certain we will soon have a whole catalogue of really new camellias to enjoy. Many hybrid seedling plants are being grown which have not yet bloomed, while the results of a good many more crosses are now only in the seed-pod stage. Each blooming season will undoubtedly bring forth more and more of these new flowers for our enjoyment and perhaps even amazement.

Certain varieties of the Yunnan *Reticulatas* set seed rather freely by open-pollination. '*Crimson Robe*', '*Lionhead*', '*Chang's Temple*', '*Noble Pearl*' and '*Tali Queen*' all set seed regularly, while occasional seed pods have been gathered from '*Butterfly Wings*', '*Cornelian*', '*Shot Silk*' and '*Small Osmanthus Leaf*'. Many open-pollinated seedlings from these varieties are now growing, although only a very few have bloomed as yet. The flowers, so far, have not been outstanding and it remains to be seen whether any will prove really worth while.

The flowers of most *Reticulata* varieties respond well to hand-pollination, using pollen from a number of species. So far, pollen from *Japonica*, *Saluenensis* and *Pitardii* has produced seed pods on several different *Reticulata* varieties. And of some interest is the fact that the *Reticulata* varieties can be crossed among themselves. Pollen from flowers of plants which have not set seed has also been used successfully. For example, pollen from '*Purple Gown*' flowers has produced seed pods on '*Crimson Robe*', '*Lionhead*' and '*Chang's Temple*', while '*Moutanba*' pollen has been used on '*Chang's Temple*' with excellent results.

Pollen from a number of *Japonica* varieties has been used on different *Reticulata*

varieties with varying degrees of success. Many crosses produced no results, while others gave a very low percentage of "sets". When '*Drama Girl*' was crossed to several different *Reticulata* varieties there were no results at all. It remains to be seen just what the outcome of the successful crosses will be. The reverse cross of *Japonica* x *Reticulata* appears to be even more difficult. Several such combinations resulted in total failure. However '*Donckelarii*' x '*Noble Pearl*' as well as '*Donckelarii*' x '*Crimson Robe*' crosses set seed on about fifty percent of those attempted. The few seedlings from these crosses that have bloomed give enough promise to warrant continuation of the experiment in spite of the high percentage of failure.

The Huntington Gardens made a number of '*Pitardii*' x '*Reticulata*' crosses three years ago and a few of the seedlings bloomed last year. One flower, from '*Pitardii*' x '*Chang's Temple*', was five and one-half inches in diameter, semi-double in form and a silvery-pink color with light and dark shadings. As might be expected, the characteristic undulation of the petals was very evident. The leaves are large and notably dark green while the plant shows great vigor along with a graceful branching habit.

The few flowers seen on seedlings of *Saluenensis* x *Reticulata* are very exciting. One, of medium size, was colored a very lovely orchid-pink while another showed a beautiful gradation of pink. It appears that the possibilities of new flower forms and colors from this cross are practically unlimited. Indeed *Saluenensis* sets seed quite easily when pollinated by any one of a number of different species.

Considering the excellent showing made by the few seedlings of hybrid crosses that have flowered, it is safe to predict that we are facing a new era in camellia growing. Certain improvements in flower form and texture will certainly be attained, as well as more vigor and compactness in plants. This will stimulate a continuing interest in camellias and result in their wider use in our gardens.

\*Supt., Huntington Botanical Gardens.

## CAMELLIA HYBRIDISING IN AUSTRALIA

Walter G. Hazlewood, Epping, New South Wales

Hybridising, as I understand the term, is the crossing of two species of a genus, or the crossing of two relatives of the same Natural Order, and not the fertilizing, by hand pollination or otherwise, of two varieties of the same species. So far, not much has been done in Australia in the production of hybrids, but with the excellent results obtained by Professor E. G. Waterhouse, from *C. saluenensis*, chance fertilized with various varieties of *C. japonica* by the bees, there is bound to be more of this type of work done in the future. There are probably several people trying their hand, but if so their efforts have not been made public.

My own experiments in the past were confined mostly to *C. sasanqua* and *C. japonica*, but so far without any definite result. One of my most promising looking seedlings had japonica and sasanqua foliage on the same plant. This was put out in the ground, but as it developed, it dropped the leaves which had the japonica characteristic and developed along sasanqua lines, both as to foliage and type of growth. This flowered for the first time this year, and was straight-out sasanqua. I will save any seed that sets on this plant and see if there is any variation in the seedlings. Another plant, which was a straight-out japonica, flowered in its first year with a bloom almost identical with 'Hiryu'. This must have been a freak as the following season it had a japonica flower. I have tried using colchicine but the discrepancy between japonica 30 and sasanqua 90 is too great, even when the japonica has doubled its chromosome count to 60 by the use of colchicine. I had, more or less, given up the idea of doing anything with these two species, when it occurred to me that japonica 'Lady Clare' has a count of 45 and, if this is doubled by using colchicine, it should bring the count to 90, which would then make it even with sasanqua.

I have now turned my attention to *C. oleifera* and *C. sasanqua*, and so far have some interesting looking seedlings as far as foliage goes. They are too young to

think of flowering yet. One seedling has leaves about four inches long by 1¾ inches wide with the shape and serrations suggesting oleifera, but the colour and texture of the leaf is sasanqua. The proof will come with flowering, but not for some time as this is only its second year. The mother of this one was sasanqua 'Fukuzutsumi'. Others of the sasanqua seedlings have foliage much like oleifera. On the other hand, where oleifera was the mother, the foliage is more oleifera, although there are variations. This would seem to suggest that oleifera is more dominant than sasanqua.

I also have some seedlings from 'Cornish Snow' (*cuspidata* x *saluenensis*) x *japonica* (possibly *Finlandia*), but these are suspect, as they might have been mixed at some time or another, when the plants were handled. Their foliage is very large, 4 inches long, 2 inches wide, very dark green and with a crinkled look about the leaves, something I have never seen before in any other variety.

A couple of chance seedlings of 'Donation' look interesting, with distinct foliage.

(Continued on page 12)



Fig. 6—'MARGARET WATERHOUSE'

Photo by the Editor



## SOME SALUENENSIS SEEDLINGS AND HYBRIDS

E. G. Waterhouse, Gordon, New South Wales, Australia

My plant of *Saluenensis* was imported from Scott, of Merriott, Somerset, England, in 1938. It was planted in a bed in the vicinity of a number of *C. japonica* and flowered each year. From the beginning it showed a tendency to "die back". In 1945, it flowered profusely and set seed. In 1946, the plant died, but in the meantime twenty-two seedlings had sprung up beneath it and were potted up as I did not wish to lose the species which was at the time, as far as I knew, the only *saluenensis* in Australia. But as the seedlings grew I was struck by a certain variation in their foliage which in no case was exactly like that of the parent *saluenensis*. Until they flowered I carried the seedlings under numbers S.S.1, S.S.2, etc. to S.S.21.

In 1954, three of them produced flowers, and it was evident that cross-pollination had occurred in my garden and without my intervention. One of the three, 'E. G. Waterhouse', was a complete formal double, light pink and beautifully imbricated; another, 'Lady Gowrie', a large semi-double upwards of 5 inches in diameter, with about twenty petals and a narrow dense cylinder of slender stamens. The tall petals are very deeply and beautifully notched at the apex, forming two lobes, colour Fuchsine Pink  $62\frac{7}{1}$ . 'Lady Gowrie' bears a certain resemblance to 'Donation' but is yet quite distinct. It bears flowers freely on rather pendulous branches. 'Margaret Waterhouse' is a semi-double with three rows of petals and a diameter of 4 inches. Its colour is amaranth rose  $53\frac{0}{2}$  to  $53\frac{0}{1}$ . It is of vigorous and erect habit. It is very floriferous, fairly early and bears blooms of a simple charm over a period of three months.\*

All twenty-two seedlings have now flowered. Ten are singles, ten semi-doubles and two are complete formal doubles. All of them inherit the characteristic *saluenensis* colour, ranging from Amaranth rose to Fuchsine pink. With

\*This is one of the most vigorous-growing camellias of which we have knowledge. Although the leader was topped during the past winter, a grafted plant has, at this writing (Sept. 15, 1958), put on 40 inches of vertical growth and the wood is still green.—Ed.



Fig. 7—'E. G. WATERHOUSE'

Photo by John Reid, Sydney

the exception of 'E. G. Waterhouse' the foliage favours *saluenensis* rather than *japonica*.

Of the ten singles, six bear flowers of no merit, but S.S.11, 'Ellamine', is an outstanding single of upwards of 4 inches in diameter. Colour Fuchsine Pink  $62\frac{7}{1}$ . The blooms are extremely showy, not only on the plant but when they fall to the ground. S.S.8, S.S.12 and S.S.14 are pleasant variants of one another. Of the semi-doubles not mentioned 'Crinkles' is most attractive. The plant has strong stocky growth. The flower is a many-petalled semi-double beautifully crinkled and amaranth rose in colour. 'Clarrie Fawcett' bears a general resemblance to 'Margaret Waterhouse' but both are charming. 'Bowen Bryant' is deeper in colour than the others, very floriferous and an extremely vigorous grower.

'E. G. Waterhouse' and S.S.4 ('Shocking Pink') seem to be the first fully double *williamsii* hybrids to be reported. The former has yielded a variegated form with about 90% white from a grafted plant. The latter is the deepest in colour of the present batch of seedlings. There can be no doubt that *saluenensis* crosses very readily with *japonica* and that the future holds great promise for those who cross-pollinate these two species.

**A REPORT ON HYBRIDIZING IN THE NORTHWEST**

Mrs. A. E. (Mary) Johnson, Beaverton, Oregon

One of the greatest pleasures one may experience with Camellias is growing these plants from seed. This is particularly true when you have cross-pollinated the flowers yourself, with definite objectives in mind.

About three years ago, after several extremely severe winters, I became fascinated with the idea of trying to develop hardiness in Camellias. At that time, many of the species now rather commonly known and grown were not available in the Portland area, so we set out in our breeding program with what few varieties we had, of known superior hardiness. It would, of course, be only dreaming, to hope to eventually develop varieties that would withstand temperatures to zero or even lower degrees without injury. It is a real challenge to us, but as yet we have only small plants and quantities of seed from the hundreds upon hundreds of crosses that we have made. It is quite natural I believe, to succeed in only a relatively few instances when the cross is extremely remote, but it is reward enough to have even a few of the resulting hybrids.

It may be of interest to others who are hybridizing if I just list a few of the crosses that we have been successful in making this past year. You will note that not quite all of the crosses were made with hardiness in mind. The tempting thought of a few new varieties of great size and unusual color was just too strong! The following pollen-parents were crossed into the Williamsii hybrid 'Mary Christian', the figures denoting the number of seed pods that have formed:

Ville de Nantes.....	5
Fraterna .....	10
Rusticana (wild form).....	6
Shot Silk.....	12
Kuro Tsubaki .....	3
Hybrid (Lady Van Sittart x Crimson Robe).....	3
Bertha A. Harms.....	5
Kingyo Tsubaki.....	4
Cuspidata .....	2
Starlight (Surusumi).....	7
Gigantea Alba.....	6
Sweet Bonair.....	6

*C. japonica* 'Rising Sun' bears seed pods as shown from crosses with the following pollen parents:

Rusticana (wild form).....	2
Kuro Tsubaki .....	1
Hybrid (Lady Van Sittart x Crimson Robe).....	2
Shot Silk.....	1
Hybrid Saluenensis.....	2

The following crosses were made successfully, the numbers indicating seed pods formed on *C. japonica* 'Gigantea Alba':

Fraterna .....	1
Cuspidata .....	1
Elizabeth Rothschild.....	1
Hybrid (Lady Van Sittart x Crimson Robe).....	3
Kingyo Tsubaki.....	1
Cuspidata .....	3
Rusticana (wild form).....	4
Shot Silk.....	4
Kuro Tsubaki .....	4

The fragrant white japonica, 'Sweet Bonair', promises to yield seed from the following crosses:

Rusticana (wild form).....	2
Cuspidata .....	2
Fraterna .....	1
Shot Silk.....	1
Hybrid Saluenensis.....	1
Kuro Tsubaki.....	4

The final hybrid cross was Willmeta, with pollen of Gigantea Alba.



Fig. 8  
*Saluenensis* x *Cuspidata* 'CORNISH SNOW'

### One Way It Is Being Accomplished in Oregon

Just as some Camellia growers insist upon pinching off the tips of the tap roots of young seedlings while others disagree with this practice, so some hybridizers emasculate and remove unwanted petals, or otherwise do damage to the bloom, in the process of fertilizing the flower. A few growers do not agree with this practice, either. Being a member of the latter school of thought, I was determined to devise some way whereby the bloom could be fertilized with practically no damage of any kind to any of its parts. The method, I realized, must first of all leave no chance for contamination, either from foreign pollen or from the self-pollen of the flower, nor even from those busy little BEES! So, simple as it may be, I feel that I have hit upon a rather successful method of crossing Camellias, and the following is the manner in which this task is accomplished: First, one must have a few simple supplies on hand. From the grocery or variety store I purchase a quantity of ordinary CELLOPHANE DRINKING STRAWS, several very fine camel's hair brushes and a roll of narrow "scotch tape". The straws should be of two sizes, both the narrow (diameter) and the larger (thick milkshake type) the larger being used on the flowers having a multiple pistil formation. Now I cut tubes of both sizes of the straws ranging in length from slightly over one inch to nearly two inches. These supplies are all taken to the greenhouse, which has been tightly screened at all openings to prevent the entry of bees, where the hybridizing is begun. The flower that is chosen as the seed-bearer is not as yet quite open, so it is necessary to use extreme care in unfolding the petals. Now, with the aid of a tweezer (if you prefer, otherwise the fingers will do nicely providing you have a steady hand), the cellophane straw is most carefully placed down over the pistil. I have made some of the crosses immediately following the placing of the straw over the pistil of the unopened flower, others have been done two or three days later when the stigma had become sticky and it was pos-



Fig. 9

"Sylvia May" seedling 'CALIFORNIA SNOW'

sibly more receptive. However, I have not kept individual records and cannot say whether or not the element of time made any appreciable difference in the results. At any rate, the desired pollen is transferred from the capsule in which it had been stored, to the pistil which has been previously covered with the section of cellophane straws, by using one of the camel's hair brushes. The length of the particular flower pistil determines the length of tube to be used. Ample room should be allowed beyond the pistil—nearly one-half inch. (The reason for this is found in the final step of this method.) Finally, a tiny piece of the narrow scotch tape is tightly secured over the top of the cellophane tube and the work on this particular flower has been completed—that is, except for the proper label and though this is the last item it is far from the least important of these steps, for the keeping of accurate records is absolutely necessary if you would learn from your own experience.

## CAMELLIA HYBRIDISING IN AUSTRALIA

(Continued from page 8)

Clifton Lattin sent me some pollen from several of the Kunming *reticulatas* and I used this on *sasanqua*, *oleifera* and *japonica*. The first two looked all right for a fortnight after removing the bags, but the capsules then dropped off, apparently the mating not having been successful.

On the other hand, those on *japonica* have all set, and are growing larger every day. It will be interesting to see what the seedlings will be like from this cross. I intend to keep some *sasanqua* pollen, and try it on the wild form of *reticulata*. When my Kunming *reticulatas* flower I will use the pollen exclusively on *japonica* and *saluenensis*. In other species, *hongkongensis* and *salicifolia* have qualities which might produce something worth while if crossed with *japonica*. *Salicifolia*, with its young foliage colouring, and *hongkongensis* with its taller growth. Another thing about *salicifolia* would be to get a larger and coloured flower, with the *salicifolia* foliage.

Getting away from crossing species, I have tried to cross '*Gordonia axillaris*' with both *sasanqua* and *japonica*, but without any success. One of my troubles is that I have no record of the chromosome count of '*Gordonia*' and therefore I am working in the dark.

*Schima noronhae* is another relative which is said to have a very strong scent, and I am waiting for my '*Schima*' to flower to see if these two relatives will cross. Mr. Tang, of Hong Kong, tells me the scent of '*Schima*' is so great that it attracts the insects from great distances. The only thing is that '*Schima*' with me would flower in November, when there are practically no camellias out, and in any case I have no lead as to its chromosome count. What a wonderful thing it would be for the Camellia if we could get a new race with strong perfume!

Two important species and a hybrid (J. C. WILLIAMS) Figs. 10-11-12 opposite.

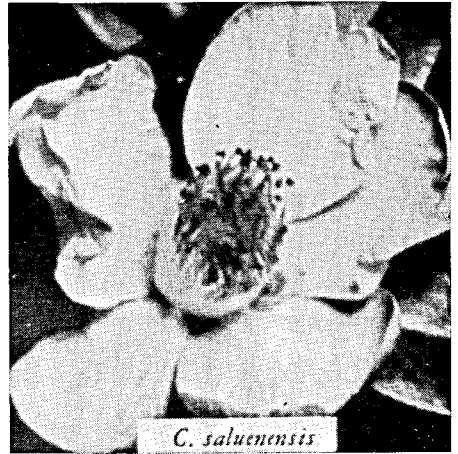


Fig. 10

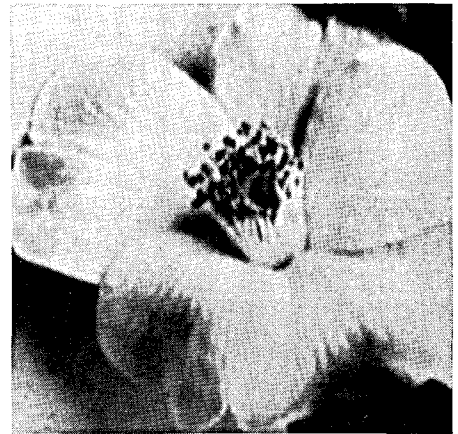


Fig. 11—*C. x williamsii* 'J. C. WILLIAMS'

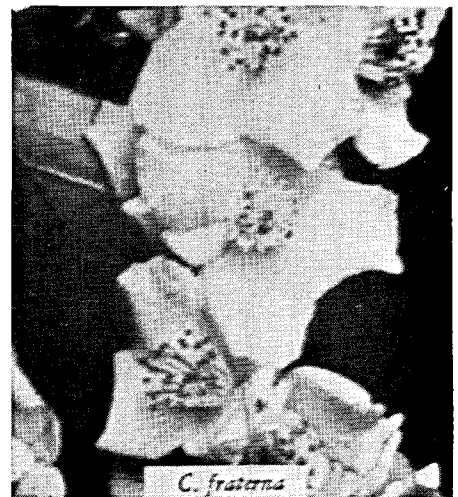


Fig. 12

## DREAMS COME TRUE

Vernon R. James, Aptos, California

It is not very often that one has the experience of a dream coming true, and only once in many lifetimes does fulfillment of the dream exceed the dream. To many Camellia lovers, I am sure, this is going to happen, in fact it is happening, through the *Hybrid Camellia*.

Hybridization of Camellias is only in its infancy, but has struck hard at the imagination of the world's leading hybridists as well as Nurserymen and Camellia Hobbyists. There is a great and growing interest in *Hybrid Camellias*, and rightly so, as the results to date show great promise for that "dream" Camellia.

What has been accomplished to date in *Hybrid Camellias*? This question can lead to many different answers, and will depend on who you are asking and what his or her likes and dislikes are; what the experience has been, in the way of *Hybrid Camellias*; plus what their dreams are. For these reasons, I will refer only to my own Hybrids and my own dreams.

To me the *Hybrid Camellias* are the finest flowering shrubs, for landscape purposes, to be offered to the public. First—they have the most beautiful foliage of all the Camellias (and *C. Japonica* and *C. Sasanqua* have foliage that is hard to excel); second—they have exceptionally good qualities in growth habits; third—they are noted for a long flowering period with a mass display of blooms; fourth—the bloom itself is very weather resistant as to cold and moisture, is iridescent and offers new shades that are "things too wonderful for me, which I knew not."

In our introduction, **C. Hybrid 'Spanked Baby'** we find all the above qualities in the soft, baby-orchid-pink blooms. The bloom is not large but it does not have to be, as it makes up in quantity what it lacks in size, which is 3½ inches.

**C. Hybrid 'Robbie'** is the largest bloom of the hybrids we have released, and will go 4½ to 5 inches. Its color is deep orchid pink, almost to the purple, and the growth is upright and compact.

**C. Hybrid 'Carousel'** is a 4-inch semi-double light pink with a deeper rose-pink striping.



Fig. 13—Hybrid camellia 'BONNIE LASSIE'

**C. Hybrid 'Bonnie Lassie'** is one of my favorites. It is a soft blush pink, faintly orchid. The size is 4½ inches. This variety is very close to an Australian introduction that we have seen.

**C. Hybrid 'Santa Cruz'** is a full-peony deep orchid-pink, 3½ inches across and 3 inches high. This one under glass, or on warm days, is the most fragrant Camellia I know. During cold, damp weather the fragrance is not so strong. It is also the bushiest plant one could imagine and is upright in habit.

**C. Hybrid 'First Formal'** is a complete double pink, 3½ inches across. It is a strong, upright, bushy grower and sets blooms at almost every leaf terminal. Typical of all the varieties, the tip of the branches open their flowers first, then work down the branch as they open in succession.

These Hybrid varieties are all "selfed" seedlings of a *Cuspidata* x *Saluenensis* seedling that Dr. Walker Wells imported from England. He named the variety 'Sylvia May' after his lovely daughter.

The second generation seedlings had so much to offer that we decided to go on with the hybridization program. A dream was born and realized, only to have another take form in the shadowy mists, and to me they were shadowy indeed. We are at another stage now and expect to start releasing new Hybrids in the fall of 1960-'61-'62, and it is hoped that we will have more with each season to come.

Today, the pursuit of my dream is clear cut. This happens to you when dreams start coming true. Once realized, there is always a new one born, and each becomes clearer as the veil lifts. The new dream was borrowed from Dr. Walter Lammerts and combined with my own. It is to have a Hybrid Camellia that will stand full sun, bloom in the late summer and on into the spring, and stand temperatures to a minus 10 degrees, with no injury. Sounds impossible? Not at all, through the use of the good and desired genes of the *Sasanqua*, *Hiemalis*, and *Rusticana* Species it is very possible if not probable.

One problem all nurserymen have in selling camellias to Mr. John Q. Public is his tendency to look at them from the standpoint of the individual bloom—as a corsage or exhibition flower—rather than as a flowering shrub for the garden. He

*Continued on next page*

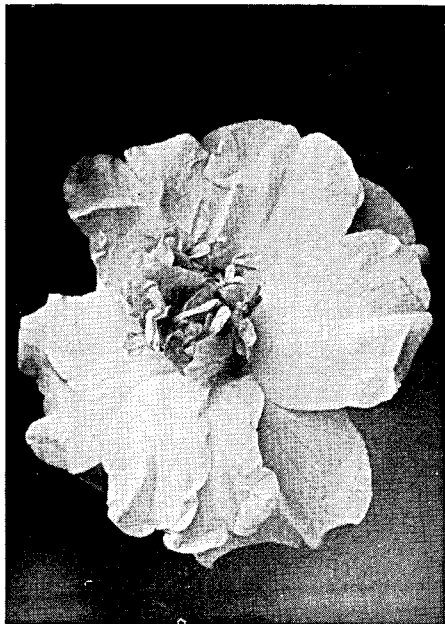


Fig. 15—Hybrid camellia #H-2-57



Fig. 14—Hybrid camellia #H-1-57



Fig. 16—Hybrid camellia #H-1-58

## HYBRIDS HAVE STYLE

Roy T. Thompson, Glendale, California

Style, in a flower is, for practical purposes, the arrangement of pattern and color which sets off a satisfactory, and sometimes thrilling, emotional and imaginative response in the viewer. This response varies with each individual, for each one of us brings to the flower different emotional equipment, different accumulations of past experiences, different tastes and preferences. In triggering the emotional response which, in this case is basically aesthetic, the size of the flower is only one of many factors. The Hybrids, originally called English Hybrids because certain of them were originated and first publicized in England, have demonstrated a peculiar and powerful ability to charm their viewers. One of them, 'Donation', has met with all but universal acclaim wherever seen and has a high rating in all camellia areas and among all camellia species. Many other Hybrids have now been produced, but *Donation* has achieved the distinction of being used as a convenient standard of measurement for rating the others.

What is the aesthetic value of the Hybrids? Have they a style and character of their own? In general they have a distinctive grace and delicacy and colors suitable to these qualities: they are produced on plants which are generally different from those of other species, especially from japonicas, and which are highly satisfac-

tory aesthetically. This in spite of the fact that they bloom at the same time as japonicas and thus compete with them. Their individuality, their matched color, pattern, and delicacy, set on appropriate plants, gives them their distinction, their style. The accuracy of this statement is verified by the fact that Hybrids can almost always be identified as such at first glance: they are seldom confused with other species. Some of the flowers are close to the sasanquas in delicacy of appearance, but can readily be distinguished from them.

Words, of course, cannot match the delightful experiences which the Hybrids afford, and those who have had this pleasure many times over have come to know them as a distinctive race with an aesthetic appeal which, notwithstanding a great many competitors, is impressive. The hybrids have indeed brought us something new in flowers, and their importance in the camellia world is increasing so rapidly as to surprise even the most enthusiastic advocates.

It would be most fitting to close my remarks about Hybrids with a few words concerning a new camellia publication about to be offered to the public by The Macmillan Company of New York City under the title *Camellia Culture*, because this comprehensive volume will deal at length with Hybrids and the technique of camellia breeding. In fact, in many respects this will be the most important volume on camellias ever published in this country, consisting of 43 chapters written by 55 scientists and acknowledged camellia authorities from every part of the camellia growing world. The volume is sponsored by the Southern California Camellia Society and edited by Mr. E. Carl Tourje, and has been in preparation for over two years. The frontispiece will be a beautiful reproduction of Paul Jones' painting of an un-named Hybrid which bloomed last winter at the Huntington Botanical Gardens. All who have seen the proof sheets of text and pictures have been impressed by the excellence of the work.

---

## DREAMS COME TRUE

*Continued from previous page*

may completely forget that the camellia is the finest of flowering and ornamental shade-loving plants in his concentration on the beautiful corsage it will make for his "one and only". While it is true that Hybrids make good cut-flowers and corsages, their mass display of blooms is perhaps one of their most outstanding features. There is hope that this dazzling effect will lead the camellia buyer to a fuller appreciation of this wonderful plant, so that he will see it in its true perspective—as *the finest of flowering shrubs*.

## CAMELLIA HYBRIDS IN NEW ZEALAND

Dr. Brian W. Doak, Papatoetoe, New Zealand

While camellias have been grown in New Zealand for almost a century, there has been little attention given to raising new varieties from seed and what has been done in this direction has been confined, with a very few exceptions, to the species *C. japonica* and *C. sasanqua*. It is only recently that other species of interest for hybridization have been introduced. Probably the first introduction of *C. saluenensis* was made about 1940 and, so far as the writer is aware, this was not used for breeding purposes until 1949 when a form was used as the seed parent of successful crosses using pollen from the 'Capt. Rawes' variety of *C. reticulata*. From this and subsequent crosses using the same parents, several interesting hybrids have been selected. Four have received names and probably a similar number will be named shortly.

Though the first crosses made were not controlled there seems little doubt that both the above species were involved. The fact that none but the hand-pollinated flowers set any seed and that no other camellias were in flower in the vicinity at the time, together with the flower and foliage characteristics of the resulting seedlings, all support the belief that the cross was successfully made. The cross was repeated two years later and was controlled. The seedlings from this second attempt show similar characters to those from the first.

Satisfactory chromosome counts have not yet been obtained but the attempts using the root tip method indicate a  $2n$  number considerably in excess of 40 and the chromosome shapes are indicative of a wide cross being made. Chromosome counts using pollen cells likewise indicate a haploid count 30—twice the number found in *C. saluenensis* and in *C. japonica* (the only other species growing in the locality but this was not in flower). One seedling had leaves almost identical with those of 'Capt. Rawes' though the flower was poor. Others vary considerably in leaf characters but most have reticulate veining to some degree. Flowers vary from pale pink to a colour approaching

that of 'Capt. Rawes', and are single or semi-double. The single flowers are generally uninteresting as they do not open widely and in this respect have the character of the parent form of *C. saluenensis* and also of the wild *C. reticulata*, but are considerably larger than those of the former. Unlike either parent most of the seedlings have a very long flowering period (4 months or more), but have the self-grooming habit and are extremely free flowering. Most are strong, upright growers. Ease of propagation both from cuttings and grafts varies between the relative ease of *C. saluenensis* and the difficulty of 'Capt. Rawes'. Flowers are relatively weather resistant. Seedlings of the F<sub>2</sub> generation have still to flower. It is expected that this generation will produce an even greater variety than the F<sub>1</sub>. Unfortunately the F<sub>2</sub> seedlings do not exhibit the vigour of the F<sub>1</sub>.

The following varieties have been named:

**Phyl Doak**—Large flowers (up to 5½ inches not disbudded) of Rose Bengal colour (H.C.C.25/3). Semi-double, about 18 petals with varying number of wavy petaloids. Stamens have a tendency to abort but when normal the pollen is golden. Leaves are small and growth habit is erect. Flowers with many petaloids are very reminiscent in shape of 'Capt. Rawes' (see cut opposite—right).

**Otara Rose**—Large flowers (up to 5½ inches, of colour H.C.C.625 shading to 625/3). Semi-double, about 20 petals opening in bowl shape, with a few petaloids. Unfortunately this most attractive variety does not propagate readily.

**Barbara Clark**—Medium sized flower, up to 4 inches, of Rose Madder (H.C.C. 23/2). Semi-double with approximately 15 petals. The petal texture is good and has a translucent appearance which is very attractive (see cut opposite—left).

**Brian**—Similar in size and shape to 'Barbara Clark' but of a paler shade of Rose Madder (H.C.C.23/3) with a silvery cast.



Other very attractive varieties not yet named include an unusual blush pink and a deeper pink with decided lavender toning.

The above varieties were all raised by the writer.

Two other camellia enthusiasts in this area are active in the field of interspecific hybrids. These are Mr. Les. Jury, of New Plymouth, and Mr. Felix Jury, of Tikorangi, both in the Taranaki Province.

Mr. L. Jury has, without doubt, done the most systematic hybridizing of camellias in this country, using *C. saluenensis* forms, wild *reticulata*, Kunming *reticulatas*, and 'Capt. Rawes', as well as *C. fraterna* and other species. To date only a few of his hybrids have flowered but already one or two interesting ones have appeared. Recently the writer saw a *saluenensis* x *reticulata* hybrid which was most attractive. This was a single of luminous colour with wavy petals. Some fine hybrids can be expected from this source in the near future.

Mr. Felix Jury believes that he has successfully crossed *C. sasanqua* with some of the Kunming *reticulatas*. The progeny are still small but the foliage has an unusual look though not resembling *reticulata*. The wood shows characters which could conceivably come from *C. reticulata*. These seedlings will be watched with much interest.

In the writer's opinion, interspecific camellia hybridization offers very great scope for the development of new camellias and is likely to be much more rewarding than simple crossing of varieties of *C. japonica*. Already *Saluenensis-Reticulata* hybrids are bringing a new range of form and colour to the camellia world and in this group there still remains much scope. Fine varieties may still be expected from the *Williamsii* family. But already the field is widening as shown by the recent award of the Royal Horticultural Society to a camellia with blood of three species; namely, *C. japonica*, *C. saluenensis* and *C. reticulata* (*C.* x 'Leonard Messel' raised from *C.* x *Williamsii* 'Mary Christian' crossed with a form of *C. reticulata*). A start only has been made and interesting though the first generation hybrids may be it is likely that even more interesting varieties will appear in the F<sub>2</sub> and subsequent generations. As time goes on many other species will be used by the hybridizer as these become available either through the wider dispersal of already introduced species (such as *C. Pitardii* and *C. Grantbamiana*) or the introduction of some of the many species known to exist in Asia. I believe the stage is set for exciting advances in camellia breeding.

(Continued on page 19)



Fig. 17—Hybrid camellias 'BARBARA CLARK' (left) and 'PHYL DOAK' (right)

## C. GRANTHAMIANA OFFERS MUCH HOPE IN HYBRIDS

Alpha M. Hartman, San Fernando, California

To accomplish anything worthwhile requires planning and effort. This is certainly true when it comes to developing a good hybrid camellia; furthermore, it requires a lot of patience. However, with modern techniques such as continuous light and controlled temperatures, humidity and proper fertilizing, as well as short-cuts such as may be possible with seed-grafting, fortunately we can now cut the blooming time from as much as 3 to 8 or 10 years, to as little as 1 to 3 years.

One of the first requisites, of course, is the proper plant material with which to work. A sufficient number of good seeders to act as mother plants and an adequate supply of species or hybrids from which to obtain desirable pollen, are needed. For example, such as 'Crimson Robe' *reticulata*, 'Berenice Boddy' and 'Chiffon' japonicas, would be good mother plants while the species *Granthamiana*, *Pitardii* and *Saluenensis* (also most of the hybrids) would be promising paternal parents. Several recent developments have brightened the outlook for hybrids; in particular, the availability of the two species, *Pitardii* and *Granthamiana*. Modern transportation of pollen and scion material, even to and from other continents, has added greatly.

To obtain the ultimate in this field, it will probably be necessary to combine several or even many of the more promising species as a source of the best qualities. Such evidence as is available at this time indicates *Reticulata* will give us unusual color, form and size when used in combination with certain other species and, at the same time, an improvement of its growth habit (as in the hybrid 'Inspiration' and many others still in the early development stage).

Having seen the new species *Granthamiana* in bloom, we can entertain the hope that a hybrid may be developed which will have its foliage and growth habit, with an improvement in the form and new colors in the flower, perhaps something quite large that would compare favorably with the best of the japonicas and even the *reticulatas*. One can imagine what entrancing possibilities there may be!

We must remember that the camellia species now available to us come from many different types of climate and it is quite possible that some may thrive only under an environment similar to that in which they originated. For example, *C. hongkongensis* offspring very likely will prove tender, while *C. rusticana* and perhaps *C. rosaflorea* may give us cold resistance and the latter a miniature camellia, as well. It is entirely likely that a hardy hybrid will eventually be produced that may thrive anywhere in the United States.

The possibilities are so great and there are so many desirable objectives that it seems strange so little work has been done in this field to date. The little we have seen has fired our imagination and, when we stop to consider the remarkable development of the japonica, some by planned crosses but mostly the result of chance pollination, the future holds out the promise of fulfillment of our wildest dreams! To illustrate this point, we need only remember that the Kunming *Reticulatas* are rather generally accepted as being the result of the deliberate crossing of the species by the ancient Chinese gardeners.

Little hybridizing has been done until recent years and that mostly by British growers such as the late J. C. Williams. Now, however, there are a great many in the field, both amateur and professional, and in almost all parts of the camellia world. Some have turned to hybridizing because of the lack of space in which to grow a great number of varieties, such as Albert E. Smith of San Fernando, California. He is probably the first person to have successfully crossed *C. granthamiana* with *C. reticulata* 'Crimson Robe', the result of which, I am sure, will be of great interest to camellia growers everywhere.

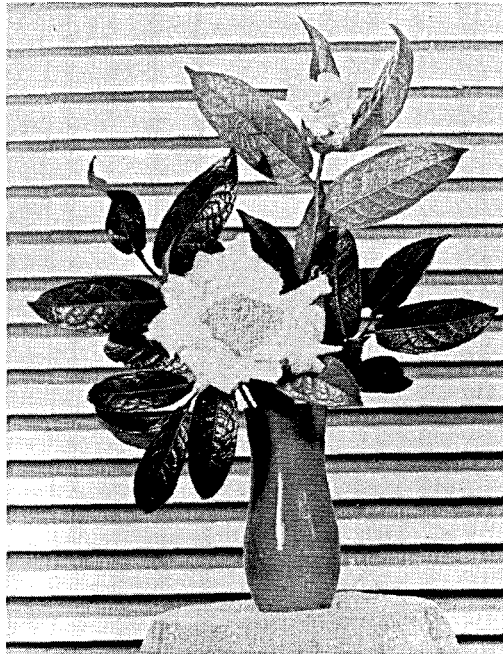
I should like to comment particularly about the species *Granthamiana* because it is one with which we are doing considerable work at the present time. This year, we made about 40 grafts, about 90% of which were successful, indicating it is an easy species to graft. Some of our grafts, made January 16, 1958, have already grown to a height of about 49 inches and still making growth; others,

not quite so vigorous, have set flower buds—on 7 plants. The parent plant, cut quite heavily last year, now has about 20 flower buds which will yield sufficient pollen for a great many crosses and, with refrigeration, should be available for almost the entire blooming season. Incidentally, this is a very favorable indication as to *Granthamiana's* floriferousness.

In late January, 1958, we had 3 *Granthamiana* seedlings, which were very small and it appeared that they might not survive. It seemed best to take the gamble of grafting and we accordingly made 10 grafts in the hope of preserving them. The wood was very poor and our hopes not very high as to a successful outcome. However, at this writing we have 7

healthy grafts, one being about 25 inches tall and bushing out with 4 laterals—the other 6 are also beginning to branch out. The foliage of each varies but little—from each other and from the parent plant. It is just as beautiful and carries the same fine, dark green color, the heavy veining and size.

Last blooming season, we pollinated *Reticulata* 'Crimson Robe' with *C. granthamiana* pollen and now have two very large seed pods, almost 2 inches in diameter, which give every indication of yielding very interesting hybrids. We are, of course, anxiously awaiting the first blooms but have high hopes, for this newcomer to our garden seems to possess very great potentials as a source of fine new camellia hybrids.



*C.  
granthamiana*

Photo courtesy  
Supt. of Gardens,  
Hong Kong

Fig. 18

## CAMELLIA HYBRIDS IN NEW ZEALAND

(Continued from page 17)

While some understanding of genetics and cytology is useful to the would-be hybridizer, one should not be overawed by chromosome counts, incompatibility

and the like. The chances of a certain cross being successful may be very small, but the unexpected can happen and a "break through" may result. This has been the case in other genera and once the initial "break through" has happened, further progress often comes easily.



Fig. 19—Hybrid camellia 'INSPIRATION'

*Photos by J. E. Downward, Woodford Green, Essex, England*

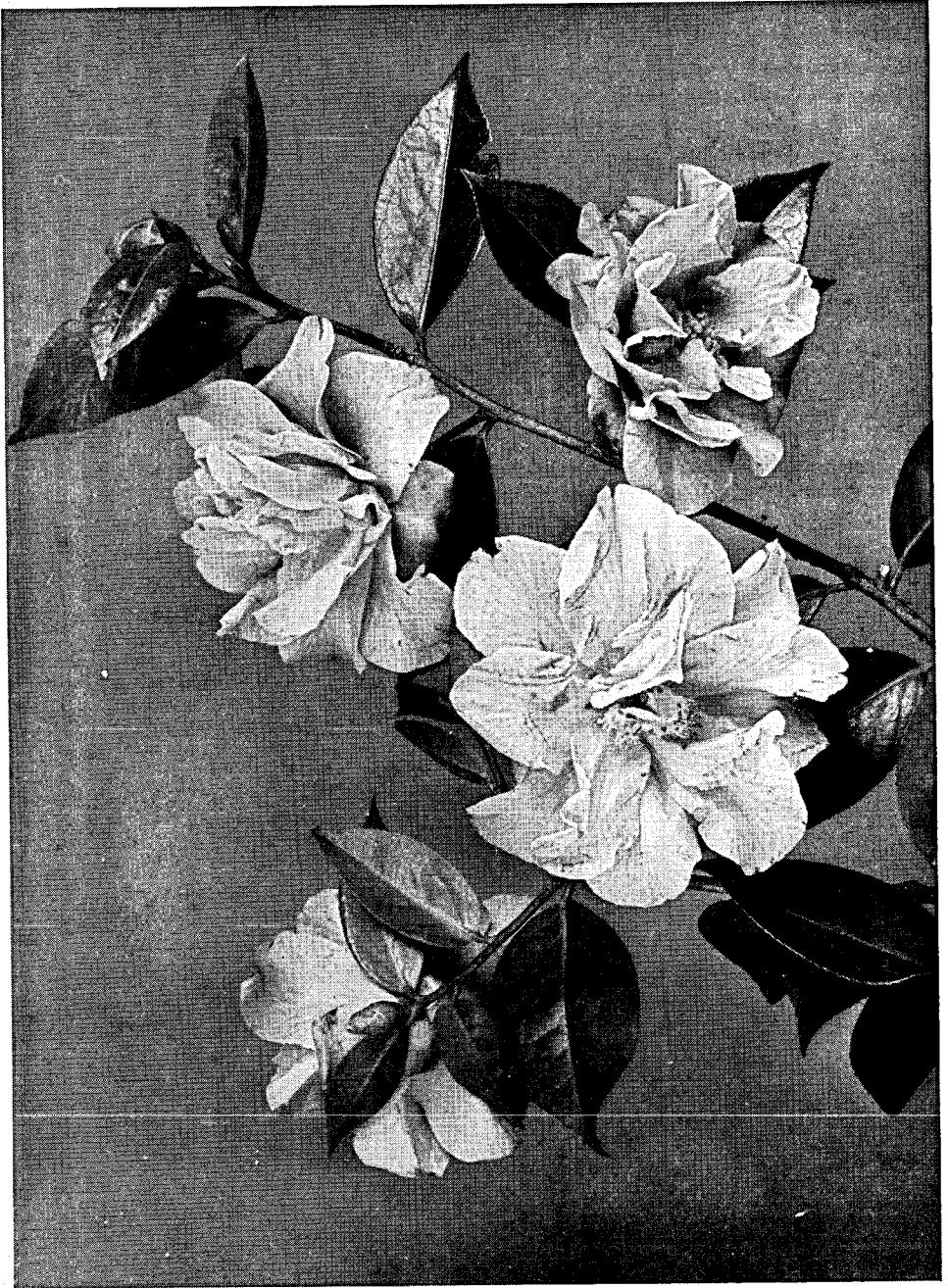


Fig. 20—*Reticulata* x *williamsii* 'LEONARD MESSEL'

## BRITISH HYBRID CAMELIAS

Charles Puddle, Bodnant Gardens, North Wales

Despite the thousands of camellia varieties which are known today, there is still the widest possible scope for advancement by selection and hybridisation. In fact, I feel that the camellia world is about to enter a new era as the result of controlled hybridisation between the species. The opportunities which exist have been made very apparent by the fine inter-specific hybrids already raised and I am sure the rewards from a fully organized programme would be very great. There are many intriguing combinations of specific characters to interest present and future hybridists, although it may take several generations to unite the best qualities of the species and produce the perfect camellia.

I think it is fair to say that the present impetus in inter-specific hybridisation had its beginnings in Britain and dates back to the introduction of *C. saluenensis* and the wild form of *C. reticulata*. The possibilities of hybrids between these species and *C. japonica* were quickly realised and put into practice by those two great gardeners, the late Mr. J. C. Williams and the late Colonel Stephenson Clark. In the past twenty years or so, there has been a slow trickle of named hybrids in Britain and additions from Australia and the United States. I expect this to become a torrent in the near future when the loss of the war years is finally overcome.

In this review of British Hybrids I do not believe it necessary for me to extol the qualities of the best forms of the *Williamsii* Hybrids. Their general characteristics are already well-known and in this country their popularity increases each year. They may not have such large flowers as the best Japonicas but as garden plants in our climate they are more than equal.

### **Camellia williamsii 'Donation'** (*see frontispiece*)

This is undoubtedly the finest member of the *Williamsii* Group which is at present generally available to the public. Its semi-double, clear pink flowers are produced in great profusion, almost hiding the shiny, deep green foliage. Its upright habit makes it most valuable in the gar-

den. I have nothing but praise for this hybrid which I know is equally popular overseas, and all I can do is to recommend everyone to grow it in quantity.

### **Camellia williamsii 'J. C. Williams'**

So much has been written about this hybrid that it must be familiar to everyone interested in camellias. I am sure that whatever advances are made in the future, this hybrid will always hold its own as one of the finest garden plants raised this century. In recent years, I have closely investigated the plants which are grown under this name in Britain and now have little doubt that two distinct seedlings have been distributed as 'J. C. Williams'. The true plant blooms continuously from December until April in a normal season, its pale rose flowers have a tendency to fade as they get older, but even when caught by frost they drop off very easily. Established plants adopt a somewhat spreading habit especially after reaching the height of ten feet. The second form, which should bear another name, flowers mainly in April, is deeper in colour, and as the petals overlap to a greater extent, the whole bloom appears to be rounder in shape. It also has a more upright habit and does not branch with age. As regards flower shape and colour this might be considered the best of the two although the flowering period is shorter. The differences are not very apparent when young, but when established plants are grown side by side in similar conditions, there is little doubt that they are two separate clones.

### **Camellia williamsii 'Mary Christian'**

For garden purposes this could be termed a deep pink 'J. C. Williams', although, in my experience, it does not flower over such a long period, nor is its flower of such high quality. When planted with 'J. C. Williams' it forms a charming group, and contrasts well by its upright habit and deeper green leaves.

### **Camellia williamsii 'St. Ewe'**

I feel this third early Caerhays hybrid has been rather overshadowed by its two more famous companions. I would certainly rate it above 'Mary Christian' which

it resembles in colour. The flowers are more campanulate and are composed of long petals of good substance so that they stand poor weather conditions. It is an exceedingly good grower of upright habit and its finely serrated leaves are most pleasing.

#### **Camellia williamsii 'Elizabeth Rothschild'**

This deep rose hybrid is somewhat similar to 'St. Ewe' in both foliage and flower. I do not think it shows any advance and regard it as one of the less-good hybrids of the *Williamsii* Group.

#### **Camellia williamsii 'Hiraethlyn'**

This Bodnant hybrid has very pale pink, funnel-shaped flowers and longer, narrower leaves than most. It is a very rapid grower but does not come up to the standard of the better varieties and is most suitable for a hedge or background planting.

#### **Camellia williamsii 'November Pink'**

It is claimed that this variety has one of the longest flowering periods, from November until May. The flowers are cherry-rose, very similar to forms of *saluenensis* which it also closely resembles in leaf. My experience is confined to a small plant, but to date cannot say I have been impressed, for its flowers are not outstanding and its flowering period has been no more than normal.

#### **Camellia williamsii 'Citation'**

This variety, long known under the dubious name of 'Semi-double', is in fact one of the finest hybrid camellias for garden value. No hybrid blooms with greater profusion, the flower size is as large as any, and it has immense vigour. The pink buds open pale, silvery-blush forming large semi-double flowers of irregular shape. There is a growing tendency towards doubling of the flowers, and on an established bush there may be single, semi-double and irregular flowers of well over twenty petals. I have recently observed six formal double flowers but have not yet had time to determine whether this will prove constant when propagated. The leaves are pale green, and clothe the robust bushes to the ground. I have no doubt that this variety will prove a favourite in California where I understand it flowers and grows with equal abandon.

#### **Camellia williamsii 'Bartley Pink'**

A criticism often levelled at the *Williamsii* Hybrids is that many are inclined to be a bluey pink and clash with the Japonicas. This is certainly true of 'Bartley Pink'. It has small campanulate flowers of indifferent quality and has little to commend in foliage or habit.

#### **Camellia williamsii 'Charles Michael'**

Another Caerhays hybrid and a good one, although very little known. It is a pale pink without the usual 'bluish' tinge and has larger flowers than the other hybrids from this garden. They are irregular in shape and have many central petaloids, making it a raised flower. One slight drawback is that it does not appear to be quite so vigorous as most but I know it is highly praised under Cornish conditions.

#### **Camellia williamsii 'Francis Hanger'**

The only white *Williamsii* hybrid so far named, makes a welcome break from the present dominant pinks. It has a beautiful, pure white flower of high quality with conspicuous golden-yellow anthers. The flower resembles *saluenensis* in shape but the leaves and habit lean strongly towards *japonica*. In unfavourable weather conditions its flowers appear to last as well as any white.

#### **Camellia williamsii 'Caerhays'**

Although only recently given a name this is not a new hybrid for it has been at Caerhays for many years. Its parents are given as 'Lady Clare' and *saluenensis* and it certainly has the spreading, pendulous habit of the former. The flowers are Tyrian Rose and consist of three layers of rounded petals, with some petaloids mixed with the conspicuous anthers. The flower is very flat for this group and is deeper than 'Donation' although the petals are smaller. It is an attractive addition to the present range but I think there are better ones to come.

#### **Camellia williamsii 'C. F. Coates'**

One of the most interesting of all *Williamsii* hybrids is 'C. F. Coates', raised at Kew from a cross between *C. saluenensis* and *C. japonica* '*quercifolia*'. The deep green leaves retain the fish-tail character of the Japonica parent. It is a very free-flowering hybrid, becoming in March or April a mass of deep rose single flowers

which quickly fall when over. It is a first-rate garden plant.

#### **Camellia williamsii 'Red Queen'**

I have not seen this interesting new hybrid in flower. It is a cross between the deep form of *saluenensis* and the semi-double japonica 'Apollo'. It appears to be a good grower and its deep cherry red single flowers may well be the deepest of the section.

#### **Camellia williamsii 'Pink Wave'**

A seedling of 'J. C. Williams' raised in 1949, this cultivar is typical of many varieties which can easily be obtained by chance or by indiscriminate collection of seed from any members of the *saluenensis* or *Williamsii* Group. Although granted an Award of Merit last year, it shows little advance on existing varieties.

#### **Camellia 'Inspiration'**

This variety is claimed to be *reticulata* x *saluenensis* but I believe it should belong to the *Williamsii* Group. Whatever decision is eventually reached, it is a first-rate garden plant. It is a very free-flowering, semi-double of deep phlox pink.

Again, there are often a number of petals and the flower has an attractive, informal appearance. The glossy deep-green foliage and strong growth combine to make this a fine introduction although its strong colour is apt to clash unless carefully placed.

#### **Camellia 'First Flush'**

As its name implies this is one of the earliest to flower and its pale pink single flowers are so often damaged by our frosts that it is seldom grown, and in any case has been surpassed by many others. It belongs to an interesting group of cultivars, derived from *C. saluenensis*. They are merely seedling variations within a species and are not the result of hybridisation in this country. In this section belong 'Bow Bells', 'Chimes', 'Cyclamen', 'Dogrose', 'Rose Bowl', 'Admiration', and *macrophylla*. It is interesting to note that the latter, once botanically identified as a variety of *C. saluenensis*, has recently been moved by the same authority to the *Williamsii* Hybrids. In British gardens there are countless seedlings of this type in all shades of pink.

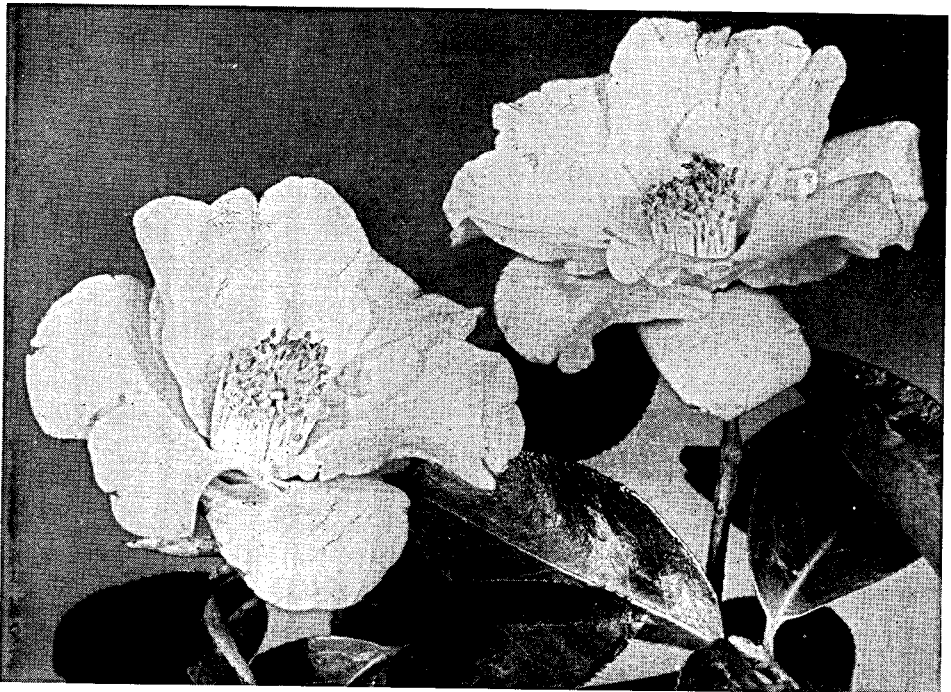


Fig. 21—*Reticulata* (wild form) x 'ELIZABETH JOHNSTONE'

Photo by J. E. Downward



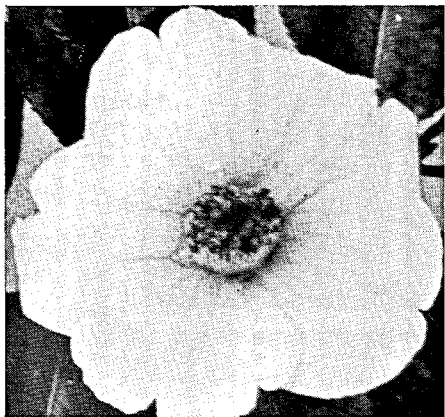


Fig. 22—*Reticulata* (wild form) x *Saluenensis*  
'INAMORATA'

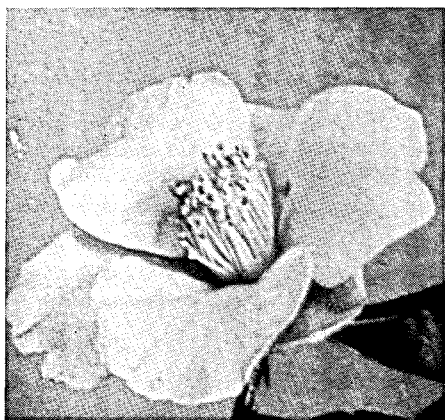


Fig. 23—*Reticulata* (wild form)  
'TREWITHEM PINK'

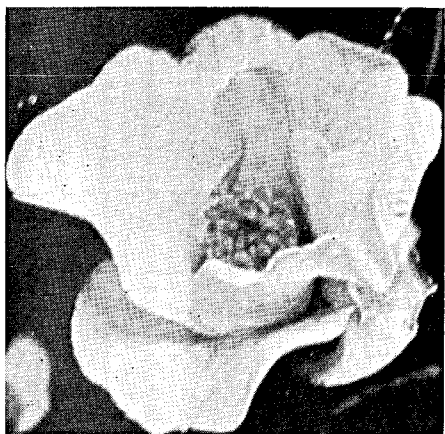


Fig. 24—*C. saluenensis* 'FIRST FLUSH'

### Camellia 'Barbara Hillier'

This very distinct plant has for convenience been included as a *Williamsii*. It bears deep pink campanulate flowers, larger than any similar hybrid and I am sure it will be an excellent garden plant when it is established but as it is comparatively new, I have only seen small plants. It is rather lax in habit with closely serrated leaves of pale green. I predict a good future for 'Barbara Hillier' especially as an adult specimen when one can look up into the somewhat pendulous, half-open flowers. It may be that this fine variety will prove to be the fore-runner of a new hybrid group.

### Camellia 'Salutation'

Anyone who has read recent camellia literature will be well aware of the confusion which exists over the parentage of this beautiful hybrid. Despite the opinions of those with much greater botanical knowledge, I still remain of the opinion that this hybrid contains *reticulata* blood as stated by its raiser before any doubts were cast on its origin. In the garden it bears silvery-pink flat semi-double flowers of good size, but has the rather leggy habit and few leaves which are characteristic of the garden form of *reticulata*. Do not, however, let this distract your attention from 'Salutation' which is a fine plant although more difficult to graft or root than most camellias.

### Camellia 'Leonard Messel'

This is the latest hybrid to gain an 'Award of Merit' when shown in London. It is *reticulata* x *williamsii* 'Mary Christian'. The flowers are a bright shade of Camellia Rose, semi-double, about the size of 'Donation'. It has nice foliage and appears to flower freely and grow well. I liked this at first sight but need more experience to give a considered opinion although I would hazard a guess that this is one to grow.

### Camellia 'Elizabeth Johnstone'

All camellia enthusiasts are indebted to the interest and skill shown by Mr. G. H. Johnstone of Trewithen, Cornwall, where most of the British Hybrids can be seen growing to perfection. Here also can be seen the great variation which exists within the species under cultivation and

(Continued on page 40)

## ADVENTURE INTO CAMELLIA HYBRIDIZING

David L. Feathers, Lafayette, California

As a businessman whose training has been largely of a practical sort, it was perhaps natural that the writer's venture into camellia hybridizing should have been by way of first-hand analysis rather than through the academic approach. Although keenly regretting the lack of schooling specializing in botany and genetics, long experience in other fields had taught the invaluable lesson that one can learn much from careful observation and independent reasoning. Thus, in an undertaking in which there was not much to go on, in any case, perhaps what some have said is true: that it was actually an advantage not having something to "unlearn". However that may be, it seems proper to begin this chronicle with a plain statement of the writer's technical limitations and the distinct understanding that the views expressed herein are not those of a geneticist or botanist. To what extent the conclusions set forth herein should accordingly be qualified, we leave to the judgment of the reader.

At the outset, it was felt that hard and fast genetic rules relate primarily to plants which breed true from seed and are more or less constant, thus might not always be applicable in the case of the unstable and unpredictable camellia, which, besides not blooming true from seed, also frequently mutates and, in general, deviates from fixed lines of behavior after attaining maturity. To one having only a rudimentary knowledge of genetics, this seemed to hold considerable prospect of the unusual happening insofar as breeding is concerned. If there actually were some quirk in the genetic make-up of the camellia, a golden opportunity might await anyone rash enough to take the chance of making a few "long-shot" crosses.

Happily, our knowledge of "chromosomes" (which, to the layman, may be explained as something like a "blood-count" to test compatibility) was rather sketchy and greater attention was devoted to observation of those flower (particu-

larly pollen) and plant characteristics which could be seen without a high-power microscope. There was, however, a little more to go on than this. Available evidence indicated that British hybridizers had long since succeeded in crossing *C. saluenensis* (having 30 chromosomes) with the wild form of *C. reticulata* (90 chromosomes) without too much difficulty. Inasmuch as *C. japonica* also has 30 chromosomes and is quite compatible with *C. saluenensis*, the question naturally arose whether there was really any sound reason why japonica should not cross with *reticulata*. Having no satisfactory answer to this provided the necessary incentive to undertake the work of trying to find out first-hand.

Unfortunately for the record, however, the weight of scientific opinion being so adverse, the usual precautions regarding emasculation and bagging of the seed-flower were not observed and the quantitative rather than qualitative approach was taken to increase the chances that the unusual might happen. From the hundreds of seedlings which resulted over the past three or four years, have arisen a number of offspring worthy of mention. Before attempting to analyze and describe what probably happened, it may be well to begin with a statement of the specific objectives sought.

One of the main purposes in crossing japonica with *reticulata* must be to improve the plant and foliage of the latter for, in the writer's opinion, the *reticulata* hybrids as a class have too many faults and usage limitations to constitute a really top-ranking, universally-satisfactory type of camellia. Reasoning this way, it was decided to start with that *reticulata* judged to have the best foliage, growth habit and the most fertile-looking pollen. The choice was easy — 'Crimson Robe'. It was reasoned that, if this could be combined with a japonica having a very compact growth habit, good foliage and which bore good quality seed readily, there was a likelihood of obtaining a hybrid having a large, high-grade flower borne on a fairly compact plant having satisfactory foliage. 'Lady

Vansittart Red' was a natural choice for the seed parent as it met all the requirements and also promised to yield a red flower from the cross.

The second objective being an attempt to breed greater hardiness, it was decided to try crossing the same *reticulata* with a *Williamsii*, which hybrid of *saluenensis* x *japonica* was selected for two reasons: (1) it bore the "blood" of a species (*saluenensis*) already authentically reported to have been bred with *reticulata*, (2) this hybrid was itself the result of an attempt to breed hardiness. Because it was the largest (most matured) plant of this strain readily available that was known to set seed freely, a single-flowered plant of what is believed to be 'Williams' Lavender' (actually as yet not completely identified) was used as the seed parent. In any case, it is definitely a *Williamsii* and probably of the second generation.

In addition to the foregoing were some additional crosses involving *C. japonica* 'Triphosa' x *C. reticulata* 'Captain Rawes' and other *japonica* crosses with 'Crimson Robe'. Out of all these, and direct crosses of the species *Saluenensis* with *reticulata* 'Crimson Robe', have come a number of unique "hybrids" having entirely new characteristics. It shall be the primary purpose of this article to describe what resulted and rationalize as to what may have happened in this series of attempts at making a cross of two species long generally regarded as being incompatible.

#### **Japonica x Reticulata: 'Lady Vansittart' x 'Crimson Robe' Series**

The first of these bloomed two seasons ago—a half-dozen flowers on a single plant, which has the typical twisted foliage of the *japonica* seed-parent but with a pronounced thickening of the leaves and an occasional completely distorted leaf such as so often occurs with hybrids and mutations. The growth habit was open, rather than bushy, with an occasional errant shoot. When first viewed, the flower was hopelessly disappointing—small, single and strawberry red. However, upon closer examination of subsequent blooms, it was noted they were definitely iridescent, veined heavily and the petal structure was much thicker than ordinarily the case with that type of *japonica*.

Accordingly, pollen was taken and cross-backs begun, the result of which must await at least another year's passing.

In the second year of bloom (1958) several similar results were obtained from other plants having, however, progressively more complex flowers and better compactness. Finally, late that season, a very desirable, high-centered bloom with pronounced "rabbit-ear" characteristics was obtained on a rather rangy plant. This item is now in course of commercial propagation. There remains a considerable number of this series yet to bloom and, if the often-observed rule that "the longer the time taken to bloom, the better the hope for a complex flower" persists here, the best may be yet to come.

It may be of interest to make certain observations here as to other significant features present in this series of presumed *C. japonica* x *C. reticulata* hybrids, particularly with regard to growth habit. Most notable is the tendency of the *reticulata* parent to predominate, as the majority seem to have a pronounced legginess and an inclination to branch mainly at the terminals, making for an open frame but with some exterior bushiness. Another notable growth feature is the tendency of the trunk to twist or turn erratically, rather than being a straight stem. Strangely, very few of the resulting seedlings have preserved the compact growth habit of the mother plant. There are, however, one or two with much the same compactness, foliage and general outward appearance of the *Williamsii* x *reticulata* combination. However, the former have yet to bloom. Seed just harvested has capsules almost exactly like those of the wild *reticulata*—very rough and buff-colored—rather than smooth and green as are hundreds of pods gathered simultaneously from the 'Lady Vansittart' plants here.

#### **Japonica x Reticulata: 'Triphosa' x 'Capt. Rawes' Series**

Noting that the pollen of this original *reticulata* adhered readily to the camel's hair pollenizing brush, the writer tried crossing it with flowers of the good semi-double white *japonica*, 'Triphosa', situated nearby, notwithstanding the general belief that this *reticulata* is sterile. In due course, seed capsules formed and at least two



Fig. 25—*Williamsii* x *Reticulata* 'CRIMSON ROBE' #FH-10  
(indicated third-generation seedling from 'Williams' Lavender')



Fig. 26—Second generation *C. saluenensis* (alleged "Reticulata Seedling")



Fig. 27—*C. saluenensis* x *C. reticulata* 'CRIMSON ROBE'  
"fluted-orchid" type—compact habit—about  $\frac{3}{4}$  size

*All photos by the Author*

seedlings from this source have bloomed to date. First was a semi-double, a rather flat, medium-sized bloom of rose-red borne on a spreading grower having noticeably variegated foliage. Without doubt, the most distinguishing feature of this plant is the variegation, very well marked in the leaves, but which extends to the calyx jacket of the flower buds, which are prominently marbled although the flower itself is completely self-colored.

A better form which resulted is a spidery sort of flower of unusual appearance, white, loose anemoneform, having long, fluted, narrow guard petals surrounding a most unusual, high center composed of tall petaloids borne on very thick filaments, which fan out from a narrow base to form a boss of conical shape. It is particularly to be noted that this is the identical basic formation, including the long, fluted guard petals, as in the *saluenensis* x *reticulata* hybrids described below. The blooms were about 5" in diameter, borne on rather long, spreading branches—a poor growth habit. The foliage is japonica-like, not at all similar to that of the *saluenensis* x *reticulata* "fluted orchid" type hereinafter described.

If one may judge from foliage and growth characteristics, a third plant of this group (which has a few buds this year) appears the most promising. It is an extremely vigorous grower, with a decidedly spreading, almost vine-like habit and has large, distinctive, light-green foliage that is leathery and well veined. By co-incidence, this plant happens to be situated very near a graft of what is labeled the Australian 'Capt. Rawes' *reticulata*, kindly sent the writer by Mr. Walter Hazlewood for check purposes. This graft has not yet bloomed but, if properly identified, it certainly is not the 'Capt. Rawes' we know under that name. To make the matter doubly intriguing, Mr. Hazlewood has expressed doubt the Australian 'Rawes' is the same as ours, but the mystery can only be resolved after further checking. The similarity of foliage and growth habit of the two is, however, quite remarkable.

**Saluenensis x Reticulata 'Crimson Robe':**

So far, only two outstanding novelties have appeared in this group. These are quite unique both in form and color, hav-

ing long, twisted, strap-like fluted guard petals of an evanescent shade of very pale orchid-pink, with a rather massive center composed of long stamens or petaloids of a noticeably deeper color ("flags", in some flowers) the mass being narrow at the base and fanning out markedly at the top into a broad cone. The result is often a three-colored effect—very light orchid, yellow and lavender-orchid. The blooms seem to differ on the two types in this group largely in the number of petaloids and the degree of twisting of the guard petals—the colors are very similar. However, there are distinct differences in the growth habit and, to a lesser extent, in the foliage, the first-mentioned having density, good foliage and compactness rather than height—the other more closely resembles the *reticulata*, being quite tall, gawky, leaves widely spaced and of a duller color. Both hybrids are being propagated commercially and will be cold-tested.

**Japonica x Reticulata: 'Waterloo-Debutante' Seedling x 'Crimson Robe'**

The mother plant, resulting from a cross made 15 years ago in an attempt to get a good blush-pink formal japonica,



Fig. 28—'TRIPHOSA' x 'CAPT. RAWES'

was chosen because of its extremely dense, heavy-set growth habit, good seed-setting qualities and, particularly, because of its excellent parentage. To date, the many crosses made using 'Crimson Robe' pollen, have yielded about five tall and slender growing "hybrids" of three different types. First to bloom was an extremely vigorous, large-foliaged seedling having a medium-large, very high-centered flower of a good shade of red, in which practically all the petals stand upright in an irregular mass. This one bloomed in 18 months from seed and is, at 4-years, now some 7 ft. tall even after having been topped. Its foliage, very leathery and glossy and quite large, is among the finest. It has yet to set seed, although giving abundant, virile-looking pollen, and is probably seed-sterile. This "hybrid" is being commercially propagated under the name 'Royal Robe'. As both 'Debutante' and 'Crimson Robe' are very strong growers, especially when young, this characteristic of great vigor might well be expected from the parentage.

Two seedlings of this series have yielded blooms of the daintiest flesh pink imaginable but the shade is unusual, indicating the introduction of factors other than found in the japonica alone. The growth is upright and rapid, as with 'Royal Robe', but the foliage is not dark green, not as heavy nor as large. One has the conventional semi-double flower form, the other tends to be high-centered, with upstand-



Fig. 29—'WATERLOO-DEBUTANTE'  
Seedling x 'CRIMSON ROBE'

ing petals. It would seem that the 'Debutante' grand-parent influenced the color of these.

The third of this group has the same general growth characteristics—medium, light-green foliage, but a pure white, semi-double, long-petaled flower around 5" in diameter. The best of the above are being commercially propagated.

#### Third-Generation Williamsii: 'Williams' 'Lavender' Seedlings

These are the newest and, if one may judge from a single year's blooming, among the most promising. For one thing,

Striking similarity in flower form between crosses involving *C. japonica* x *C. reticulata* and *C. saluenensis* x *C. reticulata* here illustrated by Figs. 28 and 30. Note particularly the elongation, twisting and fluting of guard petals, the almost identical center structure aside from petalets in Fig. 28, stamens in Fig. 30.

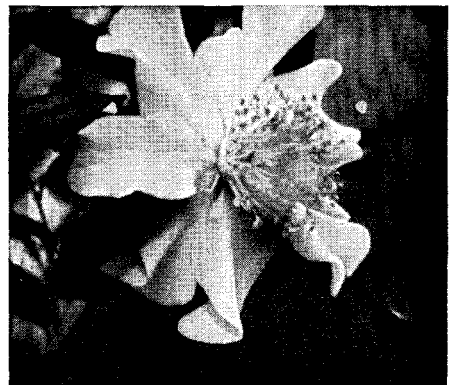


Fig. 30—Saluenensis x 'CRIMSON ROBE'

the foliage and plant habit are quite satisfactory and vigor is good but tending to bushiness rather than elongation. The flower types and colors have varied considerably, ranging from a distinctive coral-pink to a shade of wine-red that has obviously been influenced heavily by the "lavender". Flower forms are also of many kinds, single, semi-double, peonyform and anemoneform. The writer's particular favorite is a coral-pink one in loose anemoneform, which has very long petalae—up to 2 inches—a graceful flower of good size. The most promising, however, appear to be two plants which are now budded but still to bloom. They are mentioned now because the vigor is remarkable, the wood being unusually heavy, while the foliage is large, dark green and superior to that of any *Williamsii* grown here. They are distinctly upright growers, with a trim look that is quite unusual in camellias.

However, the most outstanding bloom yet obtained from this group is a flower that resembles one of the Kunming *Reticulatas* more than anything else—in form, veination, color and also promising to approach the latter in size. The first blooms from a very small plant in a 1-gal.



Fig. 31

Third-generation *C. williamsii*. This is a two-tone, "picotee" type loose peonyform, habit and foliage similar to Fig. 32, which is coral-pink anemoneform shown above—a particular favorite.



Fig. 32

tin measured over 5" in diameter by over 4" high and, if the flower size develops with the plant size, as has been the case with other hybrids, there is every prospect this hybrid will ultimately be as large as some of the reticulata hybrids. The plant is quite orderly in growth habit and the foliage small, glossy but of a rather light shade of green and well veinated. It would appear that this hybrid will closely resemble the *Williamsii* x *Reticulata* hybrid 'Leonard Messel' newly developed in England and illustrated herein, although perhaps a bit more double. (See Fig. 25.)

#### Saluenensis Seedlings:

There are two distinct parents in this group. One is a plant having small, rather round foliage and an "apple blossom type" flower, that was purchased as a "Reticulata Seedling", which it obviously is not. Unquestionably, it belongs to the saluenensis group although differing materially from the true pale-pink species plant, which is the source of the others in this grouping. The former are a distinct type, being exceedingly compact growers, very sturdy, but with small, light-green leaves that slightly resemble those of the commercial tea plant (*C. sinensis*). Two have bloomed, both showing a bit more soft lavender in the color than the species *saluenensis*, semi-double, medium sized (3-4 inches) and seeming to possess a promising amount of fragrance. Several more of these, which are easily identifiable from anything else simply by form and foliage, will bloom this coming season.

From the species *saluenensis* seedlings there are many types, ranging from the



'J. C. Williams' typical semi-double flower to others of different form and more vivid tones, but not particularly outstanding except for one, which is among the most unusual camellia blooms the writer has seen. It comes from an upright, strong-growing plant with medium-sized, dark, almost blue-green foliage which yielded last season 5" formal blooms having a very high, pointed bud center, of the



Fig. 33—Third-generation Williamsii

#### The 'Sylvia May' Seedlings:

The story of the origin of this parent plant (a possible garden variety of the species *saluenensis*) is pieced together elsewhere herein. Thirty or forty seeds from this plant in the garden of Mr. Har-

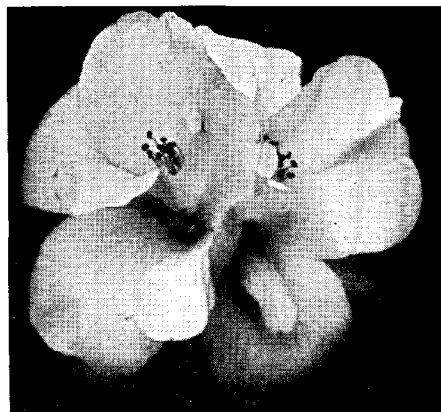


Fig. 35

"Sylvia May" seedlings—loose peonyform (Fig. 35) full peonyform (Fig. 36)—color pale pink with lavender cast and true, rich pink, respectively.

palest pink imaginable. Most unusual of all, however, was its texture—of a soft, "facial tissue" like substance, velvety and completely different. (Unhappily, the male parent is unknown). This "hybrid" had such a tight bud that it failed to open properly in the greenhouse but after moving it outdoors gave promise of opening satisfactorily and it evidently prefers the open air to warmth and confinement.



Fig. 34—*C. saluenensis* x "DEBUTANTE"

old L. Paige, a friend and neighbor, were kindly given to the writer a few years ago for propagation in addition to those planted by the donor, who has a number of seedlings from the same source just about to reach the blooming stage.

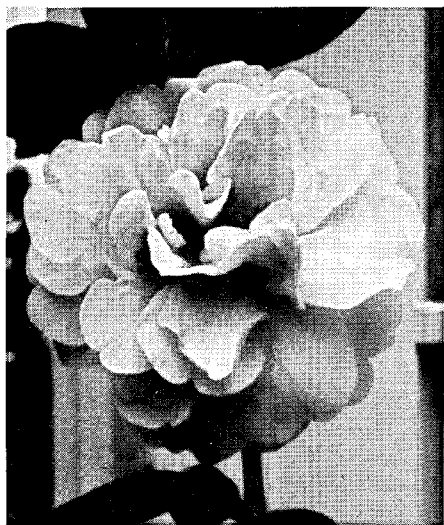


Fig. 36

Although the foliage, bloom and general appearance of this parent plant correspond very closely with the pale-pink *C. saluenensis* (species) which the writer has from two different sources, seedlings from 'Sylvia May' which have bloomed here to date seem to be of a slightly different type. The general pattern of the 'Sylvia May' series seems to be blooms of more delicacy, both in form, size and color. This may be due, of course, to the difference in surroundings and thus the opportunity for pollination. In any case, this group has yielded singles, semi-doubles (a predominance) and one dense peony-form, most of the blooms seeming to have a fairly short life. Aside from a rather outstanding ball-shaped true peonyform

bloom of rich pink (almost peach-colored) set off with prominent golden stamens, this series has not been particularly notable except as to growth habit. There seem to be several with spreading branches and low height, which should be ideal for ground cover or pendant usage such as in hanging baskets or at the top of retaining walls.

Included herein are a number which strongly indicate having *C. cuspidata* blood, perhaps the most outstanding being a tiny-foliaged, spreading grower of vigorous habit, bearing small, 2-inch white flowers in profusion, which has been named 'California Snow' because of resemblance to its British counterpart, 'Cornish Snow'.



Fig. 37

Figure 37 illustrates flower and leaf placement on *C. saluenensis* x *reticulata* 'CRIMSON ROBE' hybrid #2—note wide leaf spacing. Figures 38 and 39 opposite illustrate the pale pink hybrids obtained from the crossing of 'WATERLOO-DEBUTANTE' seedling x 'CRIMSON ROBE' *reticulata* (see Page 30).

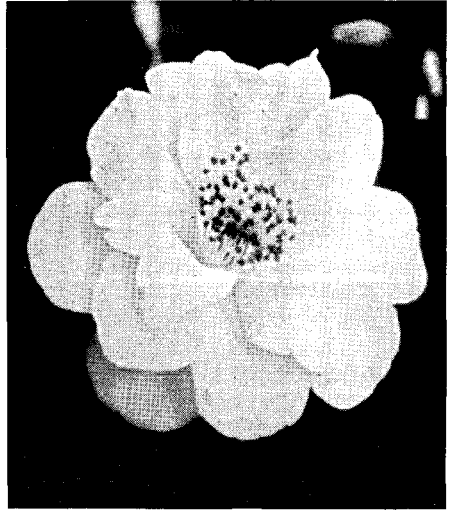


Fig. 38



Fig. 39

## SPECIES AND HYBRIDS FOR CROSS-POLLINATION

P. L. Hilsman, M.D., Albany, Georgia

The following is an abbreviated outline of the *Theaceae* Family:**Theaceae Family** — Composed of Six Tribes:

1. Asteropeieae (Divided into 2 Genera and 15 species)
2. Bonnetieae (Divided into 2 Genera and 10 species)
3. Camellieae (Divided into 12 Genera and 185 species)
4. Pelliciereae (Comprised of 1 Genus and 1 species)
5. Taonabeae (Comprised of 5 Genera and 59 species)
6. Ternstroemieae (Comprised of 4 Genera and 130 species)

**Camellieae Tribe** — Composed of 12 Genera:

- |                       |                      |                        |                         |
|-----------------------|----------------------|------------------------|-------------------------|
| a. <i>Camellia</i>    | d. <i>Franklinia</i> | g. <i>Gordonia</i>     | j. <i>LaPlacea</i>      |
| b. <i>Pyrenaria</i>   | e. <i>Schima</i>     | h. <i>Stewartia</i>    | k. <i>Tutcheria</i>     |
| c. <i>Haemocharis</i> | f. <i>Yunnanea</i>   | i. <i>Parapiquetia</i> | l. <i>Kailosocarpus</i> |

**Camellia Genus** — Composed of 11 Subgeneric Groups (118 species).Subgeneric Group 1—(*Stereocarpus*) has 8 species.*C. amplexicaulis*, *C. dormoyana*, *C. euphlebia*, *C. flava*, *C. krempfii*, *C. petalotii*, *C. pleurocarpa*, and *C. tonkinensis*.Subgeneric Group 2—(*Theopsis*) has 29 species.*C. acutisepala*, *C. assimiloides*, *C. costei*, *C. crassipes*, *C. cuspidata*, *C. dubia*, *C. elongata*, *C. euryoides*, *C. forrestii*, *C. fraterna*, *C. handelii*, *C. indochinensis*, *C. lawii*, *C. lutebuenensis*, *C. nokoensis*, *C. parvilimba*, *C. punctata*, *C. rosaeflora*, *C. rosthorniana*, *C. stuartiana*, *C. synoptica*, *C. trichoclada*, *C. transarisanensis*, *C. transnokoensis*, *C. tsaii*, *C. tsoufuii*, *C. tsingpunensis*, *C. villicarpa*, *C. maliflora*.Subgeneric Group 3—(*Camelliopsis*) has 6 species.*C. assimilis*, *C. caudata*, *C. cordifolia*, *C. melliana*, *C. salicifolia*, *C. wenshanensis*.Subgeneric Group 4—(*Piquetia*) has 1 species.*C. piquetiana*.Subgeneric Group 5—(*Thea*) has 5 species.*C. gracilipes*, *C. pubicosta*, *C. sinensis* (including varieties, *sinensis*, and *assamica*), *C. taliensis*, *C. irrawadiensis*.

Subgeneric Group 6—Has 5 species.

*C. amplexifolia*, *C. corallina*, *C. gilbertii*, *C. nematodea*, *C. parvifolia*.Subgeneric Group 7—(*Calpandria*) has 2 species.*C. connata*, *C. lanceolata*.

Subgeneric Group 8—(Has 4 sub groups and 13 species).

Sub-Group A (has 2 species).

*C. szechuanensis*, *C. tuberculata*.

Sub-Group B (has 9 species).

*C. crappelliana*, *C. fleuryi*, *C. fururacea*, *C. gaudichaudi*, *C. hemyana*, *C. paucipunctata*, *C. tenii*, *C. warpii*, *C. yunnanensis*.

Sub-Group C (has 1 species).

*C. granthamiana*.

Sub-Group D (has 1 species).

*C. hongkongensis*.Subgeneric Group 9—(*Camellia*) has 9 species.*C. edithae*, *C. heterophylla*, *C. japonica*, *C. mairei*, *C. reticulata*, *C. rusticana*, *C. saluenensis*, *C. hayaoi*, *C. pitardii*.

Subgeneric Group 10 (has 6 species).

*C. brevistyla*, *C. fluviatilis*, *C. gripsii*, *C. kissi*, *C. oleifera*, *C. sasanqua*.

Subgeneric Group 11 (Temporary Miscellaneous Group) not yet classified into preceding 10 groups—(34 species).

*C. greysii*, *C. quinosomia*, *C. lutescens*, *C. banksiana*, *C. biflora*, *C. buisanense*, *C. cavaleriana*, *C. drupifera*, *C. gracile*, *C. gnaphalocarpa*, *C. bozanensis*, *C. biemalis*, *C. miyagii*, *C. obscura*, *C. oleosa*, *C. podogyna*, *C. polygama*, *C. tegmentosa*, *C. tenuiflora*, *C. trichoclada*, *C. vernalis*, *C. chinensis*, *C. dutisepala*, *C. haematodes*, *C. hortensis*, *C. liuii*, *C. obscurinervis*, *C. stenophylla*, *C. wabisuke*, *C. simplexicaulis*, *C. chekiangoleosa*, *C. austroyunnanensis*, *C. sumingensis*.

As well as I am able to determine, there are, as shown in the preceding outline six Tribes of the *Theaceae* Family including the *Camellieae* Tribe. I have no species belonging to any of the other five Tribes and know of no hybrids originated between any of the species of these five Tribes and any of the species of the *Camellieae* Tribe.

The *Camellieae* Tribe is here composed of 12 Genera including the *Camellia* Genus. Of the remaining 11 Genera, there are representative species of at least 5 Genera in the United States. (*Franklinia*, *Gordonia*, *Schima*, *Stewartii* and *Tutcheria*). Although there have been several unsuccessful attempts to hybridize *Tutcheria spectabilis* with several species of the *Camellia* Genus, I know of no hybrids produced between any species of the *Camellia* Genus and any species of the 11 other Genera of the *Camellieae* Tribe.

The *Camellia* Genus has been divided into 10 Subgeneric Groups by Dr. Sealy. For convenience I have added an eleventh temporary miscellaneous Subgeneric Group comprising other species mentioned in the literature which have not as yet been definitely assigned to the above 10 Subgeneric Groups, where most of the species belong.

These 11 Subgeneric Groups of the *Camellia* Genus comprise approximately 118 species, of which almost a third (34) are known to have been imported to this country. These species, which represent seven of the Subgeneric groups, are italicized in the preceding outline.

As might be expected, it is more difficult to cross species of different Tribes, than species of different genera of the same Tribe, which in turn is more difficult than crossing species of different Subgeneric Groups of the same Genus. Conversely, it should be easiest to cross species of the same Subgeneric Group of the Genus, and still easier to cross species of the same Chromosome count within that Subgeneric Group.

Of the 34 species of the *Camellia* Genus known to be in this country, four (*C. rosaeiflora*, *C. maliflora*, *C. wabisuke* and for all practical purposes *C. vernalis*) are

sterile. *C. drupifera* and *C. oleosa* are probably synonymous with *C. oleifera*, *C. chinensis* is probably not a species but a specialized genetically variegated leaf form of *C. japonica*. This leaves us with only 27 species of which I have never seen 8—*C. lutchuensis*, *C. nokoensis*, *C. transarisanensis*, *C. transnokoensis*, *C. crapnelliana*, *C. hayaoi*, *C. kissi* and *C. hozanensis*). With the possible exception of *C. crapnelliana*, which is described as having a fairly large white flower, I know of no outstanding characteristics of this group worthy of their use in hybridizing. *C. tsaii* and *C. assimilis*, which I have seen but do not have, could also be included in the above group.

Of the remaining 17 species, except for foliage or early blooming characteristics, I can see no particular future in the use of the following species for hybridizing: <sup>(1)</sup>*C. sinensis*, *C. cuspidata*, *C. salicifolia*, *C. oleifera*, *C. caudata*, or *C. miyagii*. *C. cuspidata*, which belongs to another Subgeneric Group, has been successfully crossed with *C. saluenensis* (producing 'Cornish Snow', 'Winton' and others) and with *C. japonica* (producing 'Hybrid L'). I have also been able to cross this species with *C. fraterna* which belongs to the same Subgeneric Group. *C. oleifera*, which is crossed easily with *C. sasanqua* and probably several other species, has nothing to offer in hybridizing except early blooming habits which could be supplied by a superior species such as *C. sasanqua*. *C. caudata* and *C. salicifolia* have interesting foliage, but are not hardy. Both have small white flowers. *C. sinensis* has an interesting foliage and early blooming habits, but in my estimation would be inferior to *C. taliensis* and *C. irrawadiensis* of the same Subgeneric Group.

Of the remaining twelve most promising species of the *Camellia* Genus, five belong to the same Subgeneric Group—*C. japonica*, *C. rusticana*, *C. saluenensis*, *C. pitardii* and *C. reticulata*. The first three of these are diploids ( $2N=30$ ) and latter two are hexaploids ( $2N=90$ ). According to some Japanese authorities, most of our garden varieties of *C. japonica* are crosses of *C. japonica* x *C. rusticana*. There are certain facts to support

this contention. *C. saluenensis* has been crossed with *C. japonica* producing the *Williamsii* hybrids ('*J. C. Williams*', '*Donation*' and probably two dozen other named ones); with *C. reticulata* producing '*Inamorata*', '*Inspiration*', the Doak hybrids and possibly '*Salutation*' (the latter may be a *Williamsii* instead). The *reticulata* species should also cross easily with *C. Pitardii yunnanensis* which has the same chromosome count and has been crossed successfully with several of the *Yunnan reticulatas*. Reports from Australia reveal successful crosses of *C. reticulata* with *C. sasanqua*; both being hexaploids ( $2N=90$ ). I believe I have been able to duplicate this cross plus crosses of *C. reticulata* x *C. japonica* as have many others on the West Coast. There is also a West Coast hybrid supposedly representing a cross between *C. pitardii* and *C. cuspidata*. It has small interesting leaves, but I suspect this *C. pitardii* parent of having been *C. saluenensis* instead, as there are many mislabeled *C. pitardii* in California.

*C. fraterna* belongs in the same Subgroup of the *Camellia* Genus as does *C. cuspidata*, and in my opinion will be far superior to *C. cuspidata* for hybridizing. Although a dwarf grower, it is at least as hardy as *C. cuspidata*, is more floriferous; has a superior flower and is the most fragrant species in my collection. It should produce sufficient seed pods. Since *C. cuspidata* is one of the few species that has been successfully crossed with species of a different Subgeneric Group, (*C. japonica* and *C. saluenensis*) and since it also crosses with *C. fraterna* of its own Subgeneric Group, I can see no reason why *C. fraterna* cannot also be crossed with *C. japonica*, *C. saluenensis* and probably other species. I already have seed and seedlings representing some of these crosses.

*C. taliensis* and *C. irrawadiensis* both belong to the same Subgeneric Group as does *C. sinensis*, the tea plant. Both have small white flowers similar to the tea bloom; neither, I believe, are too hardy. Both, however, have very interesting foliage and *C. irrawadiensis* is apparently a very fast grower. Two plants of this

which I grafted on one gallon understock 18 months ago are now over eight feet tall and well branched. Both plants bloomed as one-year grafts and one set several seed pods, which however, fell off prematurely. I believe it should cross well with several other species. Mr. Donald W. Stryker of Langlois, Oregon, has already been able to cross *C. taliensis* with *C. saluenensis*, *C. cuspidata*, *C. fraterna* and *C. sinensis*.

*C. granthamiana* and *C. hongkongensis* both belong to the same Subgeneric Group, although they are placed in separate Subgroups. I doubt if either species will prove too hardy. *C. hongkongensis* has a small red flower but unusually large and attractive leaves.<sup>(2)</sup> *C. granthamiana* has very attractive foliage plus a large ( $5\frac{1}{2}$ "") white flower. Both these species have good possibilities for hybridization.

Of the available species, only *C. sasanqua* and *C. hiemalis* remain. Since all of the wild *sasanqua* of Japan have white blooms, I suspect that most of our garden varieties of this species are probably already hybrids. I believe that *C. hiemalis* probably represents a hybrid between *C. sasanqua* and a diploid species, rather than being a distinct species. *C. sasanqua* has the advantages of hardiness,<sup>(3)</sup> cold, sun and soil tolerance, free early blooming and free seeding habits, as well as a different flower color range. Its chief disadvantages are the bloom size and the poor lasting quality of its blooms. There are several varieties on the market with large blooms. I have several seedlings with  $4\frac{1}{2}$ " blooms and one pink semi-double which threw a  $5\frac{1}{4}$ " bloom last fall. Although *C. sasanqua* will cross easily with *C. oleifera*, I can see no advantages in this cross. Many attempts have been made to cross the former species with *C. japonica* but without success. *C. sasanqua* has been crossed with *C. reticulata* and should cross with the *Yunnan reticulatas*. *C. sasanqua* pollen was used on flowers of *C. saluenensis* and the *Williams* hybrids. Although seed pods were produced, none of these seeds germinated.

In the Tonkin Province of North Vietnam in communist Indo-China, there

are known to be approximately 15 species of the Camellia Genus, none of which is in this country. Seven of these species are known to have very large leaves (*C. amplexicaulis*, *C. dormoyana*, *C. euphlebica*, *C. flava*, *C. krempsii*, *C. petalottii*, *C. pleuracarpa*, and *C. piquetiana*). *C. krempsii* has leaves a foot long, and *C. piquetiana* leaves between twelve and eighteen inches long. Five species are described as having yellow flowers. (*C. euphlebica*, *C. flava*, *C. gilbertii*, *C. fleurysii*, and *C. symplexicaulis*). In addition, there is one purple-flowered species (*C. amplexicaulis*) and one coral-flowered species (*C. coralina*) in the same area. At the office of the U.S. Embassy at Sa'gon, South Viet-Nam, I understand from a returning secretary, there is an 8-10 inch high stack of inquiries of and requests for these species. Since there is no trade or personnel exchange between North and South Viet-Nam, the American Embassy is helpless to procure these plants. Since all these species are in North Viet-Nam, the best approach would probably be through the French or English embassies in this country. Even this will be difficult, as these representatives are probably confined to an area within a short radius of the capital, Hanoi. They probably would have to deal with the communist government. Most of the Vietnamese probably do not speak French or English. In addition, the terrain is difficult and inaccessible. Most of these Camellias are located in the valleys. The mountains are occupied mostly by the Moi, a wild type of people similar to the inhabitants of Borneo. The Moi do not speak Vietnamese. It looks like this bonanza will be out of reach for some time yet. The value of these species to the hybridizer would be immeasurable.

The available hybrids might be divided into those of unknown origin, such as the two or more forms of 'Appleblossom', 'Judith', 'Sukiya' ('Sa-otome') and 'Kuro-tsubaki'; and into hybrids of known origin including the Williamsii hybrids (*C. saluenensis* x *japonica*) the *C. saluenensis* x *C. reticulata* hybrids, the *C. saluenensis* x *C. cuspidata* hybrids, and the *C. cuspidata* x *C. japonica* hybrids. Also included

in this latter group are the Yunnan reticulatas, although it is not definitely known whether these are hybrids or garden forms of the wild *C. reticulata*. 'Capt. Rawes' reticulata is a sterile triploid ( $2N=45$ ) although its pollen is thought by some to be virile.<sup>(4)</sup> Origin of this hybrid is unknown.

The form of 'Appleblossom' which has a hairy ovary is sterile, although I have seen one mature seed pod on a large bush at Nuccio's Nursery, Altadena, California. Another hybrid which also is labeled 'Appleblossom' has a glabrous ovary and is not sterile. This has pink, single, bell-shaped flowers and has been pollinated with pollen of *C. reticulata*, *C. japonica*, *C. saluenensis* and Williamsii hybrids. Neither 'Sukiya' ('Sa-otome') nor 'Judith' have produced seed here. Mr. Edwards Metcalf of San Marino, California, has a large plant labeled 'Judith' which is a free seeder. 'Kuro-tsubaki' (the black camellia), which I believe is a form of *C. rusticana* or a hybrid of it, produces seed but not in abundance. Its pollen has been used on *C. japonica* to produce 'Mabogany Glow' and others. It should also be compatible with *C. saluenensis* and the Williamsii hybrids.

Many of the Yunnan Reticulata produce seed pods and although I have not yet heard of any particularly good seedling except 'Professor Tsai', propagated from these seed, I would certainly expect some soon. 'Confucius' and 'Buddha' were produced by cross-pollinating Yunnan Reticulata and *C. pitardii*. Other crosses have been made between Yunnan reticulatas and the wild *reticulata*, *C. japonica*, *C. saluenensis*, the Williamsii hybrids, and probably eventually with *C. sasanqua*. Large flowered hybrids of the Yunnan reticulatas which would be hardy in this section of the country are desired greatly.

There are many named varieties of the Williamsii hybrids already on the market, a number of which have good flowers. New crosses plus the blooming of second and third generation seedlings will soon multiply this number greatly. Many of the first generation hybrids, while sufficiently hardy and floriferous, have flowers inferior to most *C. japonica*. Some of

these, like 'Mary Christian' and 'St. Ewe', however, make good seed parents. These hybrids apparently cross easily with any species that *C. saluenensis* will cross with, such as *C. japonica*, *C. saluenensis*, *C. reticulata*, *Yunnan reticulata*, 'Kuro-tsubaki' etc., and the possible number of crosses is almost unlimited. Recently a hybrid from *C. reticulata* x *C. Williamsii* 'Mary Christian' ('Leonard Messel') has been introduced in England.

The named hybrids of the *C. saluenensis* x *C. reticulata* group include 'Inamorata' (the only known pentaploid,  $2N=75$ ), the Doak hybrids, 'Inspiration', and possibly 'Salutation', although the latest chromosome count has revealed the latter to be a diploid ( $2N=30$ ) and therefore presumably a member of the *Williamsii* group of hybrids.<sup>(5)</sup> I presume all this group of plants are sterile. They are hardier than *C. reticulata*.

The *C. saluenensis* x *C. cuspidata* hybrids include among others 'Cornish Snow' and 'Winton'. 'Sylvia May', which has produced many worthy seedlings, is I believe, a member of the *C. saluenensis* species and not a *C. saluenensis* x *C. cuspidata* hybrid as sometimes described. Although 'Cornish Snow' forms seed pods early, I have not had any mature as yet. Mr. Stryker wrote last year that some of his hybrids of this origin apparently were setting seed. I do not see too much future in this group, although it is hardy and free flowering.

The one named hybrid of the *C. cuspidata* x *C. japonica* crosses—'Hybrid L',<sup>(6)</sup> developed by Dr. Lammerts, is hardy and apparently forms seed on older bushes. It has interesting foliage and a small white bloom, larger than *C. cuspidata* and 'Cornish Snow'. (See cut p. 40.)

#### EDITOR'S NOTES:

(1) *C. sinensis assamica*, which bears wafled-like, very beautiful, shiny leaves up to 10", some of which are naturally variegated, is reputed to have a yellow flower and thus might offer considerable promise; in general, it is difficult to say what may result from the combination of even unpromising forms with species having a highly-developed flower.

(2) The *C. hongkongensis* with which we associate this flower has rather narrow, acuminate leaves about 4" long and which tend to flute.

(3) Reports from England indicate *C. sasanqua* to be less cold hardy than *C. japonica*.

(4) Some question has arisen in this regard, seed having been reported formed on a 'Capt. Rawes' plant in Northern California, while recent developments seem to establish that its pollen is definitely virile.

(5) The weight of evidence, to the contrary, seems to establish that 'Salutation' is a cross of *C. japonica* 'Donckelari' and *C. reticulata* (wild form).

(6) Because this is the first authenticated successful cross of these species, we would assume that this hybrid should properly be designated "Camellia x lammertsii", or "the Lammerts hybrid".

(7) The foregoing classification is a composite of botanical works and writings, with the addition of a suggested Miscellaneous Grouping by the author, drawn chiefly from the following:

(a) Melchior, in Engler and Prantl's "Die Natürlichen Pflanzen Familien" (1925 Revision, Ed. 2, XXI) pp. 109-154, of the book originally published in 1893.

(b) T. Nakai's articles in "The Japanese Journal of Botany", Nov.-Dec., 1940.

(c) J. R. Sealy's "Outline of the Camellia Genus", Southern California Camellia Society's 'Camellia Review', November, 1956, and his "Review of the Species of Camellia", American Camellia Yearbook (1956), American Camellia Society.

(d) C. Kobuski (Curator, Arnold Arboretum, Harvard University, Cambridge, Mass.) "Camellia Relatives Known in Cultivation", American Camellia Yearbook (1953).

(e) T. T. Yu, "New Genera and Species", Rhododendron and Camellia Yearbook—1957, Royal Horticultural Society.



Fig. 40

*C. saluenensis* x *C. reticulata* 'CRIMSON ROBE' Hybrid #2—tall growing form.

## BRITISH HYBRID CAMELLIAS

*(Continued from page 25)*

how difficult it is to differentiate between the species and hybrids. Of course, the correct term to use is 'cultivars' and I think this is most convenient for it can hide a multitude of sins. 'Elisabeth Johnstone', a cross of *reticulata* wild form and an unknown camellia, gained a well deserved Award of Merit in 1957. Its very fine serrated foliage, dark green in colour, is an admirable foil to the bright Camellia Rose flowers. It makes a tall bush of great beauty and is a valuable addition for those who garden in the milder areas.

**Camellia reticulata 'Trewithen Pink'**

This is a selected seedling of the wild form of *Camellia reticulata* and a very good one too. In favourable gardens it does remarkably well and at Bodnant it has proved perfectly hardy and very free-flowering. It has rather broad, leathery leaves, and deep rose, semi-double flowers with a prominent boss of stamens. There is little doubt that the best wild *reticulata*s are the aristocrats of the genus, for they have polish and a charm associated with the highest quality. There is also a

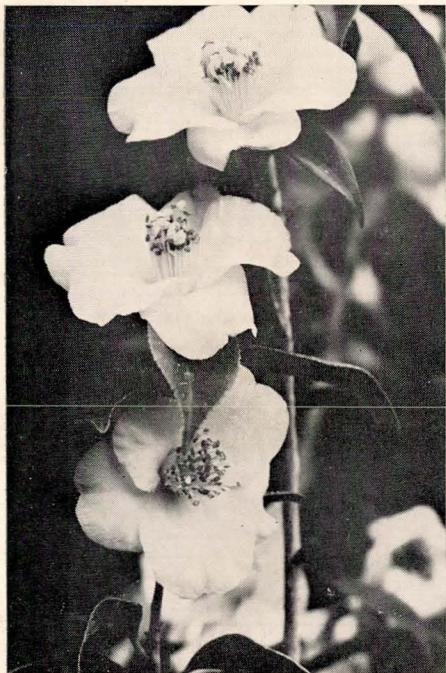


Fig. 41—*C. lammertsii* (*cuspidata* x *japonica*)

salmon form very similar to 'Trewithen Pink'.

**Camellia reticulata 'Mary Williams'**

Granted an Award of Merit in 1942, this fine form still remains little seen. It is single, with petals of firm texture, varying from crimson to rose madder in colour. It is a good grower and like the above variety is much more clothed with leaves than most *reticulata*s.

**Camellia reticulata 'Superba'**

Another selected seedling from Caerhays with wide open flowers of eight to ten petals. They are rich carmine, deeper on the outside and very freely produced. It forms with the three others above a selection of the very best forms of wild *reticulata* which have appeared in Britain.

**Camellia 'Inamorata'**

A hybrid between *reticulata* wild form and *saluenensis*, with rose-pink flowers. Its garden value can be compared with the seedling forms of wild *reticulata* such as 'Mary Williams' and 'Superba'.

**Camellia 'Cornish Snow'**

There are three somewhat similar hybrids of *saluenensis* and *cuspidata* which are all fine garden plants. The flowers are small, but are plentiful so that the bushes become just a white mass and in early spring there are few finer sights in the garden. Not the least of their good points is the foliage which is light and feathery with bronze young growths. 'Cornish Snow' itself is pink in the bud opening white, 'Charles Michael' is similar with larger leaves and flowers, whilst 'Winton' is the palest pink and I am not sure whether this is an improvement.

I think I have covered the majority of named hybrids although there are one or two of doubtful origin which have been omitted. I have seen many good un-named seedlings which will be coming along later and will largely surpass some of the old varieties. The opinions expressed are my own and are based on my experience in growing them at Bodnant and seeing them in other gardens. Any assessment is a personal matter and it is as well to remember 'that one man's meat is another man's poison'. I see a very rosy future for hybrid camellias, with great advancement in quality and range, and any comments will have to be revised in the next decade.