NO. 10 OCTOBER 1984

INTERNATIONAL CAMELLIA JOURNAL

国際ツバキ会誌

KOKUSAI TSUBAKI KAISHI
LE JOURNAL INTERNATIONAL DU CAMELLIA
RIVISTA INTERNAZIONALE DELLA CAMELIA
INTERNATIONALE ZEITSCHRIFT FUR KAMELIEN
REVISTA INTERNACIONAL DA CAMÉLIA
INTERNATIONAL CAMELLIA TIJDSCHRIFT

AN OFFICIAL PUBLICATION OF THE INTERNATIONAL CAMELLIA SOCIETY

The International Camellia Society
was inaugurated in 1962 with the following motives:

1. To foster the love of Camellias throughout the world, and to maintain and increase their popularity.
2. To undertake historical, scientific and horticultural research in connection with Camellias.
3. To co-operate with all national regional Camellia Societies and with other Horticultural Societies.
4. To disseminate information concerning Camellias by means of bulletins and other publications.
5. To encourage a friendly exchange between Camellia enthusiasts of all nationalities.

The International Camellia Journal

No. 16 OCTOBER 1984

An Official Publication of The International Camellia Society

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October 1984

Cover: *A reproduction of the cover of a charming brochure issued in English by Kunming Botanical Garden. A note within says, "Yunnan Camellia, the finest flower under Heaven; the best of the famous flowers of Yunnan and widely cultivated as early as the Ming Dynasty".*

Message from the President

Message adressé par le Président

Mensaje del Presidente

Messaggio del Presidente

MRS. VIOLET LORT-PHILLIPS
President, International Camellia Society

Firstly, I must thank the Board, our Executive Committee, and all those in every region who give generously of their time and support to the Society, and to members everywhere for their helpful advice. Without the active participation of all our members, we cannot grow; as gardeners, we know the importance of a good root system followed by steady growth.

There will be more detailed reports in the Journal of our activities and pleasurable events, in which many of us have been fortunate enough to participate.

I would like to emphasise the importance of the scientific work of our Patron and Past-President, Tom Savige, who has taken on, and is completing the work of Dr. Philbrick in editing and updating the Nomenclature lists of species and varieties of Camellia. He has been helped by many people: our American colleagues: Mr. Yoshiaki Andoh and Mr. Goro Imure of Japan; Dr. Antonio Sevesi of Italy; Mr. Robert Gimson of Spain; and Messrs. Charles Puddle and John Tooby of Great Britain. The Board of the Society is considering what financial support can be given towards the cost of publication of this work, and we should be glad of members' suggestions for sources who would be willing to assist us in this direction. This is an international enterprise of importance that has occupied many of our members for years, and it would be a great loss to the horticultural world if this project should fail through lack of funds.

'Gardens of Friendship' — China, March 1984

I do not think the forty members who travelled to China will ever forget their journey. They took between them 128 Camellia cultivars and countless gifts of seeds, books, and the presentation plates with a picture of Camellia 'Anemoniflora' (introduced from China in 1816-1831) from the R.H.S. 'Reeves Collection'. We flew to Kunming where the first 'Friendship Garden' was planted. The Director Emeritus, Professor Wu Cheng Yi was, unfortunately, in hospital but we shall not forget our hosts, the Vice Director, Dr. Zhang Aoluo and his staff at the Kunming Botanical Institute, who arranged the interesting Conference, smoothed out any difficulties and made everyone welcome. The warmth and the hospitality we received there was echoed at the Botanical Institutes and gardens visited at Chengdhu, Wuhan, Nanjing, and Shanghai; and by the Abbott of the Buddhist Monastery on the Sacred Mount Emei. Unfortunately, the rain made it too difficult for all of us to climb up the many steps of the mountain but twenty intrepid members watched our U.K. Director, Lady Anne Cowdray, plant the first of the *Camellia japonica* to be 'returned to the wild' in a garden that was made there to commemorate the occasion.

Our extensive itinerary did not permit us to see and do all that we should have wished but our brief visit has whetted our appetites to return, and travel at a more leisurely pace. We are all indebted to our leader, Harold Fraser of Australia, for the imaginative concept of the 'Gardens of Friendship'. He prepared the way and established a 'rapport' with our hosts and the Directors of China International Travel. This was the fruit of years of planning, energy and hard work. Our thanks to Harold, his wife Dorothy, and their helpers for making this journey possible. Thanks too, to Mr. Milton Brown, former Director I.C.S. of Georgia, U.S.A. for arranging the visits to Nanking Botanical Institute and to Shanghai Botanical Gardens and Institute. We came away full of admiration for the people, the plants and the wonderful country. We were inspired by the work of the Institutes and imbued with the concept of evaluating trees and plants for their use as well as their beauty. Also present were the Head of Chancery at the British Embassy in Peking, Mr. A. C. Galsworthy and Mrs. Galsworthy, who added official lustre and were much admired for their fluency in speaking Mandarin.

On my return, I joined the I.C.S. members at Newquay, Cornwall in April. We visited the Truro Show and saw many splendid gardens.

With new eyes, I noted the richness of colour, foliage, scent and form that grew in our temperate climate, and counted our blessings; but should we not explore some of the practical uses of Camellia which are practised in the East?

Brighton Congress in 1985

We hope to have the pleasure of seeing many of you at Brighton in May next year, from 9th to 14th. The date has worried us all as, due to the administrative difficulties, it was impossible to get a firm date when required. After the Congress, it is intended that our members will visit the famous Chelsea Flower Show. I must assure those who feel they will not see their favourite flowers at that time of year, that Camellias are still making a brave show as I write. I thought of taking some fine blooms of C. 'Elsie Jury' to Chelsea this year — who knows what we shall do next year. We are fortunate in being able to plan exciting projects for the future. The horticultural world can be explored, new species discovered, our lives enriched. I look forward to greeting old friends and making new ones.

Communication de Madame le Président

MRS. VIOLET LORT-PHILLIPS

Tout d'abord je voudrais remercier les membres du Conseil et du Comité Exécutif et tous ceux dans chaque région qui se sont dévoués aux intérêts de notre Société soit par leur service soit par leur support, ainsi que les membres qui nous ont offert leur avis et leurs commentaires. Sans la collaboration active de tous nos membres nous ne pouvons pas croître; et comme nous sommes tous jardiniers nous sommes conscients de la valeur d'un bon enracinement et de la croissance qui suit.

Dans notre Journal vous trouverez des rapports plus détaillés sur nos activités aussi sur d'autres événements agréables dans lesquels plusieurs de nous ont eu l'opportunité de participer.

Je voudrais insister sur l'importance du travail scientifique que notre Président, Tom Savige, a antrepris et qui menera à fin les efforts du Docteur Philbrick pour éditer et mettre à jour nos Listes de Nomenclature d'espèces et de variétés de Camélia. Plusieurs ont prêté leur concours à M. Savige: nos collègues en Amérique; MM Yoshiaki Andoh et Soro Imure du Japon; le Docteur Antonio Sevesi d'Italie; M. Robert Gimson d'Espagne; MM Charles Puddle et John Tooby de la Grande Bretagne. Le Conseil s'occupe de la question quant au support financier que notre Société pourrait donner à la publication eventuelle de cette oeuvre et nous serions heureux de profiter des propositions que nos membres pourraient faire quant aux moyens possible pour obtenir l'argent nécessaire. Nous sommes une entreprise internationale d'une certaine importance qui, depuis longtemps, a bénéficier de l'intérêt et l'expertise de nos membres et ce serait une grande perte à l'horticulture si ce projet n'était pas pleinement réalisé.

"Jardins d'Amitié" — En Chine, mars 1984

Sûrement, les 40 membres qui firent le voyage en Chine retiendront pour toujours le souvenir de leur visite. Dans leurs baggages ils ont apporté 128 divers boutures de Camélia, une masse de graines pour cadeaux, des livres, et les plaques de présentation avec un tableau de Camélia Anemoniflora (importé de la Chine en 1816-1831) provenant de la Reeves Collection de la Royal Horticultural Society de Londres.

Nous sommes descendus de l'avion à Kunming pour établir le premier "Jardin d'Amitié". Très malheureusement, le Directeur-émérite Professeur Wu Cheng Yi était malade et nous sommes très reconnaissants à nos hôtes le Docteur Zhang Aoluo, Directeur-adjoint, et ses collègues à l'Institut Botanique de Kunming qui ont organisé une conférence très intéressante, ont surmonté tous les problèmes et ont chaleureusement accueilli tout le monde. Cette amitié et hospitalité se trouva aussi aux institutions botaniques et aux jardins que nous avons visité à Chengdhu, Wuhan, Nanjing et Shangahi, et également aux mains de l'Abbé du monastère Buddhic au Mont Sacré d'Emi. Ici, hélas, la pluie empêcha quelqu-uns de nous de faire face au grand nombre de marches pour arriver au jardin sur le montagne où, enfin, une vingtaine de notre groupe ont assisté à la plantation, dans un jardin spécialement preparé pour marquer l'occasion, par Madame le Directeur Britannique Lady Anne Cowdray, du premier des Camélias Japonica à être ainsi remis à leur "état sauvage".

Notre très long itinéraire ne nous a pas permis de voir, ni de faire, tout ce que nous aurions voulu, mais notre brève visite nous a donné le goût d'y retourner à loisir. C'est à notre

conducteur, Harold Fraser d'Australie, à qui nous devons la conception, très à propos, des Jardins d'Amitié. Il en fut le pionnier et réussit à établir des relations amicales avec nos hôtes et avec les directeurs de China International Travel. Notre visite était le résultat de quelques années de préparation et de son devouement et indéfatigable travail. Nos vifs remerciments à lui et à son épouse Dorothy et leurs aides — c'est la combinaison de tous leurs efforts qui a fait ce voyage possible. Nos remerciments aussi à M. Milton Brown, ancien Directeur de la International Camellia Society of Georgia E. U. qui organisa les vistes à L'Institut Botanique de Nanking et à l'Institut Botanique et les Jardins à Shanghai. Nous quittions ce merveilleux pays avec une profonde admiration pour ses plantes et son peuple. Nos étions très impressionnés par le travail fait par ses Instituts et par leur conception d'évaluer l'horticulture par raison de son utilité aussi bien que la beauté de ses produits.

Monsieur A. G. Galsworthy, chef de la chancellerie de l'Ambassade Brittannique à Pékin, et Madame Galsworthy, ont assisté aux cérémonies ce qui a ajouté une autre distinction renforcée par leur facilité admirable avec la langue chinoise.

A mon retour en Angleterre j'ai fait avec nos membres de Newquay en Cornouailles, une belle promenade dont le but était de visiter l'exposition horticole à Truro et divers magnifique jardins privés. Après la visite en Chine j'ai pu apprecié de nouveau la richesse de couleur, le feuillage, le parfum et la forme qui se produisent dans notre climat doux et j'ai bien constaté les avantages dont nous jouissons. Enfin, devrions-nous peut-être explorer des usage du Camélia d'ordre pratique, ce qui se fait actuellement en Orient?

Le Congrès à Brighton 1985

Nous esperons pouvoir accueillir beaucoup de nos membres au congrès à Brighton qui aura lieu le 9 au 14 mai 1985, malgré les difficultés que nous avons rencontré pour fixer ces dates, notre intention étant qu'après le congrès nos membres pourraient visiter le fameux Chelsea Flower Show à Londres. Puis-je assurer ceux qui doutent s'ils verront leurs fleurs favorites à cette saison de l'année que les camélias se presentent encore très bien à ce moment là. En fait j'avais l'intention d'exposer à Chelsea cette année de très beaux spécimens de C. Elsie Jury — qui sait, peut-être l'année prochaine...

Nous sommes vraiment très heureux de pouvoir préparer de nouveaux projets pleins d'intérêt pour l'avenir. Le monde d'horticole est à explorer et de nouvelles espèces a découvrir et ainsi enrichir la vie. Je me réjouis d'avance de revoir les vieux amis et d'en rencontrer des nouveaux.

Editorial

Editorial Editorial Editoriale

As forecast in last year's Journal, the Society's principal event in 1984 was the visit of Society members to China. What has been called a mini-convention was held in Kunming where a 'Garden of Friendship' was planted and a time capsule interred. In order that Society members, who were not able to make the journey, may nevertheless enjoy something of the spirit of this unique expedition, there has been grouped together in this issue of the Journal the letters and speeches of introduction, the description of the members journeying and the papers read, both by Society members and by their Chinese hosts. The Society is particularly indebted to the latter for their kind welcome and to group leader Harold Fraser for his inspiration in conceiving the idea and for his enthusiasm in carrying it out.

The Society is also grateful to all the other contributors to the Journal. Without their willingness to take the time and trouble to put pen to paper, no journal would be possible. Although there is an emphasis this year on Camellias in mainland China, readers will be reminded of the universality of the Camellia by articles on Camellias in places as far apart as Japan, Korea, Northern Ireland, Hong Kong, Italy, New Zealand, Australia, North Wales, the U.S.A., Portugal, Germany and the U.K.

New Society Officers

Nouveaux membres du bureau de la société

Nuevos funcionarios de la Sociedad

Nuovi dirigenti dell'Associazione

Regional Director for New Zealand

Richard Howard Clere, a member of the International Camellia Society since 1962, is the Immediate Past President of the New Zealand Camellia Society and on his retirement from the Presidency was made an Honorary Life Member of this Society. He became interested in camellias some 26 years ago, through a chance meeting with Colonel Tom Durrant and has been an enthusiastic grower and exhibitor ever since. With his wife Jean, he farmed on the lower slopes of Mount Egmont, Taranaki, where he established a landscaped garden, featuring camellias in the main but also rhododendrons, azaleas, flowering cherries and magnolias. It was while here he found and propagated the Aspasia Macarthur Sport which he named for his wife Jean. Indifferent health put an end to farming activities and in 1970 he moved to Lake Taupo transporting over 100 tubbed camellias in a large cattle truck to form the nucleus of a new garden.

He has been Chairman of 2 different Branches of the New Zealand Camellia Society and on the Council of this society for over 20 years. He is both an Accredited Judge of the N.Z. Society and the American Camellia Society and has been Chief Judge several times at the New Zealand National Shows. In 1979 he succeeded the late Owen Moore as President of the New Zealand Camellia Society holding this office for 4 years and during this period attended International Camellia Society Congresses in Japan, Channel Islands and Sacramento as Mr Moore's deputy.

New Director from Jersey, C.I.

After living in many parts of the United Kingdom and in the Bahamas, Mayda Reynolds settled in Jersey where she has been for the past 30 years. Her present home is on the southern coast of the island in an 8 acre garden which was planted 60 years ago. It contains a variety of shrubs and trees which are well protected from northerly winds by granite cliffs and woodland. A stream cuts across the lower lawn to the sea a few yards distant. The old camellias in the garden comprise 10 large japonicas, a reticulata and two sasanquas. Young camellias are now being collected for which there is plenty of space in this garden.

Mayda says that she joined the I.C.S. at a lecture given by our President and the late Barbara de Veulle in order to learn about her old camellias but that this original interest quickly developed into an absorbing study of camellias generally. Her first Congress was in Jersey followed by the Sacramento Congress which she says was a wonderful experience. She has also attended and enjoyed the recent U.K. meetings in Nottingham and Cornwall.

The Society welcomes her as the new Director for "other regions" and we are sure that her enthusiasm for the camellia and for the Society will enable her to make a useful contribution as a Director.

Membership Representative for Australia

Nance Swanson is well known to a great many Society members both in Australia and in other regions. She has been growing Camellias for over 20 years and for the last 15 years has been a member of the Australia Camellia Research Society. She attended the I.C.S. Congresses in Spain and Jersey in 1981 and in Sacramento in 1983. In 1981 she took over the responsibilities of the Secretary of the I.C.S. from Harry Churchland and has now been appointed the I.C.S. Membership Representative for Australia. The Society is grateful to her for all the work she has done on its behalf in these two capacities. Apart from camellias she is very fully employed as the Secretary to the Manager in Sydney of Australia's largest financial Banking Institution.

Regional Director for Portugal

José Gil de Veiga de Carvalho Ferreira, the Society's Director for Portugal, was born at Santo Tirso, Portugal. He has a degree in Agronomics and has been keenly interested in Camellias for about thirty years. His particular concern is in Portuguese varieties and he has been trying to get together a collection of all varieties existing in Portugal since Camellias were first cultivated, i.e. from the 16th century onwards.

In 1981 he and his family were visited by members of the I.C.S. when he was invited to be the Director of the I.C.S. for Portugal which he accepted with much pleasure.

Although an amateur, he has already a collection of about 140 varieties and is still interested in increasing his collection with new varieties introduced into Portugal by Camellia lovers and professional gardeners. Recently he has been trying to grow new varieties from seed.

He is always willing to welcome to his farm all Camellia lovers and members of the I.C.S. in particular, in order to exchange knowledge so as to improve and refine Camellia cultivation.

Owen Gregory Moore

N.Z. Director,
International Camellia Society, 1974-1983

R. H. CLERE

New Zealand members of the International Camellia Society were shocked and saddened to learn of the death of their Director and Membership Representative on the 1st November, 1983. At his funeral the officiating minister ended his eulogy with this quote from the Talmud: "There is no greater boon than to leave this world with the imperishable crown of a good name." Certainly no more fitting words could have been said about Owen Moore. His knowledge of camellias and his experience in administration, judging and growing has left a void that will be deeply felt in this country for a long time to come.

Leaving school soon after the outbreak of World War II, he joined the armed services and subsequently served in the Middle East and in the Italian campaigns. Upon demobilisation he joined the staff of the N.Z. Agricultural Department, taking a keen interest

in the horticultural developments that were being undertaken at the time. While employed in the Wellington office he met and subsequently married his charming wife, Jocelyn. A need arose for a manager for the family sheep farm and Owen accepted the challenge and on the property on the outskirts of Wanganui, the young couple built their lovely home, raised their two children and established a large camellia garden that in later years was to delight many of his camellia and horticultural friends, both from home and abroad.

Owen became involved in local bodies and horticultural activities, became President of the Wanganui Horticultural Society, Secretary and then Chairman of the local branch of the N.Z. Camellia Society. In this role he was automatically on the Council of the Camellia Society and it was while holding this office he first gained experience in holding conventions. Wanganui staged the National Show and Convention for the N.Z. Camellia Society in 1974 and at the conclusion of the conference Owen was elected to the Presidency of the Society. In the same year, on the retirement of Colonel Tom Durrant, he also became the International Camellia Society Membership Representative and Director for New Zealand. While holding these dual roles, Owen, almost single-handed planned the 1979 International Congress. By combining and joining in the activities of the N.Z. Convention and National Show, the International Camellia Society visitors from the United Kingdom, Europe, United States, Japan, South Africa and Australia, together with our own New Zealand members, were treated to a Convention, still considered by many visitors to be one of the best ever held. Based in Rotorua, famed for its traditional Maori entertainment, the visitors were treated to magnificent camellia gardens of members residing in the Rotorua and Bay of Plenty areas. True New Zealand hospitality by the various Branches of the N.Z. Camellia Society, and a coach tour of the principal camellia growing regions, provided more entertainment for the visitors.

Owen retired from the Presidency following this Convention and, in recognition of his outstanding service to the New Zealand Camellia Society and his contribution to the Genus Camellia, he was made an Honorary Life Member of the Society. In 1979 and again in 1982, Owen was nominated for the vice-presidency of I.C.S. but farm commitments prevented him from attending Conventions and he reluctantly declined the honour but continued to look after the affairs of I.C.S. until his untimely death.

Owen Moore Will Be Missed

New Zealand's I.C.S. Director and former President of N.Z.C.S.

International camellia-lovers have been shocked and saddened by the death of Owen Moore in November last year.

Deservedly one of the most popular and knowledgeable camellia enthusiasts in New Zealand, Mr Moore served as President of the national camellia society, and represented New Zealand as regional director of the International Camellia Society since 1975.

I did not have the good fortune to meet Owen. His life as a farmer, near Wanganui, made it difficult for him to travel overseas during I.C.S. Congress time, while I was unable to leave my work during New Zealand camellia time.

But he was a most ardent supporter of and generous contributor to the International Camellia Society, and its objectives. And every person I know who ever met him in New Zealand spoke glowingly of him.

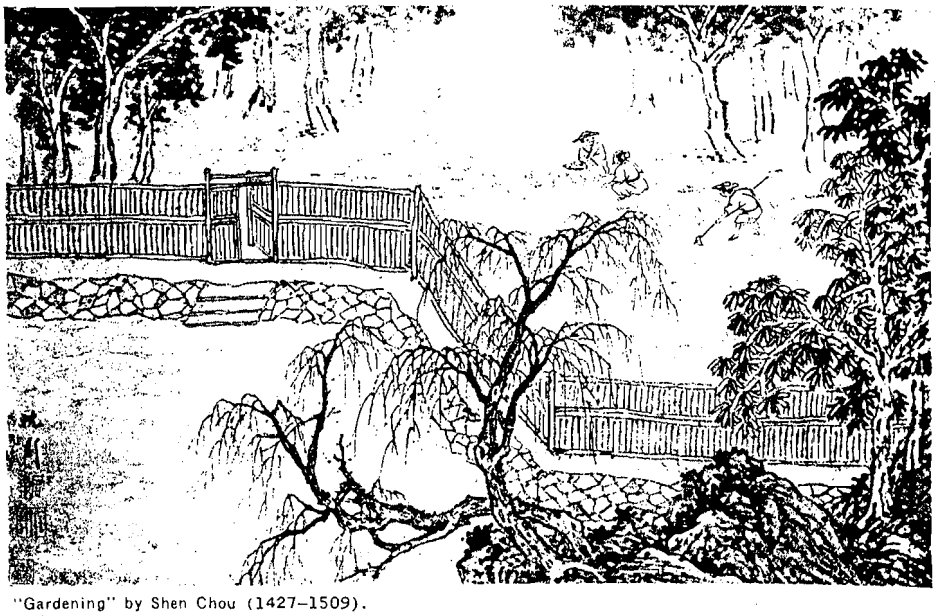
Add up all of that: Owen Moore, camellia-wise and every other way, was surely the right man at the right time.

Eric Craig
Vice President, I.C.S.

友誼

The International Camellia Society expresses its grateful thanks for the helpful and friendly co-operation of the scientists of the Kunming Botanical Institute and to all who helped to make the Society's Congress and visit to China in 1984 such a memorable success.

The following are some of the addresses and papers delivered during the visit of Society members to China:



"Gardening" by Shen Chou (1427–1509).

A letter of introduction and greetings on behalf of the International Camellia Society

Lettre d'introduction et compliments au nom de la Société Internationale des Camélias

Carta de presentación y saludos de parte de la Sociedad Internacional de la Camelia

Lettera di introduzione e un cordiale saluto a nome dell'Associazione Internazionale della Camelia

H. A. FRASER

Group Leader, Kunming, Yunnan 1984

We bring greetings of friendship from many countries specially from the plantsmen and lovers of Camellia species in particular.

The Delegation Leaders, Mr and Mrs H. A. Fraser of Australia, first visited these parts in 1978 and expressed a desire to bring their friends and offered help in various ways; the staff of the Institute graciously accepted and expressed their genuine interest in such exchanges, visits and writings.

Plants and materials, seed and books were sent over from 1979 onward.

Mrs Dorothy Fraser, accepted the kind offer of the Institute for Camellia plant material, saying seed only could enter Australia with safety because of quarantine procedures.

The Vice Director, Dr Zhang Aoluo, kindly sent seeds of *Camellia chrysantha, Camellia forrestii, Camellia yunnanensis*, firstly to Australia then Japan and United States of America.

These have flourished, being greatly treasured. We hope they will flower soon (1984) to be incorporated in plant improvement programmes. These we greatly prize and are thankful for the work of the plant collectors of Kunming Institute.

Over many centuries of time China has freely given to the outside world plants of varying species which have enriched the beauty of the landscape and has promoted the entire welfare of mankind, being plants for food and used in commerce. We think of their value in the medical field and in the everyday life of people in the beverage, tea. Australia would have found great difficulty in development of its hinterland without tea as a staple beverage — still widely used.

At this pilgrimage we are reminded of a first impression we had in 1978 on being told we were the first western visitors for a very long time to come to these parts with knowledge of agriculture and plants. The reply to this generous statement is summed up in our conclusions, that we are convinced that as more and more informed people visit this area of China ("The Kingdom of Plants"), a new conception of plant life and of the origin of many cultivars in day to day use will emerge.

It was at that period of time I felt something should be done to build up friendship in the world of plants with Chinese people.

My wife and I set out just to do this and how it has grown in concept and persons (70 in a little over 5 years).

1980 saw us bring a group of some ten Australians and here we renewed friendship and upheld our promises of 1978 that we "would return". This was a very great occasion for all and much useful exchange of information took place as well as being able to see some of the delights of Yunnan specially the Camellias in bloom.

Returning again in 1982 with a group of 18 with wider interests including two from United States of America we were able to venture down the Burma Road to Dali and see many wonderful displays of *Camellia reticulata* as well as climbing part way up famous Mount Chang Shang to see a very ancient Camellia perhaps several hundred years old which had recently suffered severe pruning. On this our third visit to the province of Yunnan arriving from Rangoon by air, our many friends greeted us and further discussed Camellia species. The *reticulatas* in the Institute gardens were in full bloom and presented a riot of floral perfection. Prior to departure our friends and our Host, Dr. Cuian Kaiyun, spoke at a farewell luncheon and presented my wife and me with a freshly hand painted picture of a branch of a Yunnan *reticulata* of great beauty executed by Professor Wu Cheng Yi in grateful recognition of our friendship and three visits, being their first western visitors. The painting on rice paper titled "Our Friendship with Australia is Blossoming", is a most appropriate work of art. (See colour section).

Yes it was truly blossoming for some 18 came and many expressed a desire to re-visit on a future occasion.

By kind invitation in 1983 from the Vice

Director, Dr Zhang Aoluo, arrangements were made to plant a 'Garden of Friendship' and take part in a conference in Kunming during March, 1984.

After a great deal of preparation and consultation with the President of the International Camellia Society, Mrs V. Lort-Phillips, Mr Milton Brown of American Camellia Society, Mr John Tooby of Worcester, United Kingdom a Vice President, Mr Tom Savige of Australia, Past President and Patron and the help and advice from my wife and Mr A. E. Campbell of Australia this present visit has been made possible: being our 4th. During November 1983 it was necessary for me to visit Beijing to finalise all arrangements with China International Travel and Professors Tang Pei Sung and Te Tsun Yii of the Institute of Botany Academia Sinica, Beijing to complete conference arrangements and all details for this historic occasion.

We are now here assembled, some forty in number being representative of no less than twenty countries in the early spring (1984).

We have come to do something tangible, in a small way to repay and thank the people of China for the many horticultural and plant gifts to the western world over long periods of time. We do this using mainly the Camellia genus as a token. Our plantings in the various gardens in Yunnan and Sichuan province are cultivars derived from the early plants to leave China and improved, growing in the Homelands of Delegates.

They have brought a wide selection of *Camellia japonica* and *Camellia reticulata* of great beauty to grow side by side with ancient plants, some being centuries old.

The Congress in which the overseas visitors are afforded opportunity to renew friendship, build new ones, exchange knowledge and promote goodwill and understanding is of historic importance being a further milestone on the friendship trail.

A full list of all those taking part, signed in person giving the Camellia names is appended.

Plaques unveiled by visitors record details and copies of engravings placed in a capsule for historic records. A Time Capsule will be sealed and contains greetings from far and wide. Also full details of the build-up of association since 1978 with China. It will be placed in the Garden.

Many plant expeditions to these areas from the outside world from western countries was a feature in the 1800's through to the early 1920's.

This group is one of the modern world of dedicated plantsmen appreciating first the value of past association, wishing to continue good friendship into the future.

The Camellia Garden of Friendship is a small tribute to the Chinese Nation presented by people of International Goodwill.

An Address of Welcome to I.C.S. Group

Message de bienvenu adressé du Groupe I.C.S.

Un discurso de bienvenida al Grupo de la I.C.S.

Discorso di benvenuto al gruppo dell'I.C.S.

PROFESSOR TAN PEISUNG
Institute of Botany, Academia Sinica, Beijing

At Green Lake Hotel, Kunming, Yunnan, P.R. China, 29 February 1984

Welcome to Mr and Mrs H. A. Fraser of Wagga Wagga, Australia on the occasion of their 4th visit and to honoured members of the International Camellia Society

Please allow me as president of the Chinese Botanical Society to extend to you a very hearty welcome and sincere greetings for this momentous occasion being the planting and presentation of the **International Camellia Garden of Friendship**, and the convening of the symposium on Camellias. I am certain the garden and this great occasion will go down in history as a fine example of the expression of mutual understanding and friendship between the people of all nations. In this respect you have set a precedent for others to follow.

Due to richness of China's vegetation, our country has long gained the euphonic title of the "Central Flowery Kingdom". Since ancient time China has been the dreamland of plant hunters, explorers, and professional botanists

from the outside world.

As a result, untold numbers of plants from this country, particularly from this very region where we are now gathered, have graced the gardens of all nations. The world has long acknowledged this in the words of the botanist E. H. Wilson who said "There is no landscape gardening in the world without the presence of Chinese flowers and plants."

This is high praise indeed. To the truly cosmopolitan and sympathetic mind, this does not seem enough. These words though gracious still leave something unfulfilled.

And today, you my dear friends, you have come with the precise purpose and aim for that fulfilment. As ambassadors of friendship and goodwill some forty members of your Esteemed Society have travelled thousands of miles from all parts of the World to perpetuate those praising words, by the planting and presentation of the "Camellia Garden of International Friendship" right on the soil from where Camellias sprang. By this action you have canonised the recognition of China's contribution to the plant treasures of the outside world. What is more important this garden of International Friendship will stand as a monument for our common love of beauty of peace and mutual understanding.

Dedication of The Camellia Garden of International Friendship at the Kunming Botanical Institute — China

Inauguration du Jardin des Camélias de la Société Internationale des Amis des Camélias à l'Institut Botanique de Kunming - Chine

Cerèmonia inaugural del Jardín de Camelias de la Amistad Internacional en el Instituto Botánico de Kunming, China

Inaugurazione del Giardino delle Camelie dell'Amicizia Internazionale presso l'Istituto Botanico di Kungming, in Cina

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Patron

An ancient Persian philosopher said "if you have two loaves of bread, sell one and with the proceeds, buy a rose". I would, of course, buy a camellia but the meaning remains the same. As bread is nourishment for the physical body so is the beauty of the rose or camellia, nourishment for the spirit.

An old Chinese proverb has it that to be happy for a day, get drunk; to be happy for a week, kill a pig; to be happy for a month, get married; to be happy for a lifetime, build a garden.

Mankind has continually sought and created beauty in all its forms; painting, sculpture, music, dance, the love of nature, flowers and gardens.

The history of gardening extends back beyond China's first gardening Emperor, the illustrious Chin Ming, who reigned about 2,700 years B.C. and was well developed over 5000 years ago when the Hanging Gardens of Babylon were constructed. Gardening encompasses everything from such mighty landscaping efforts to the small window-box and pot garden of the modern apartment dweller.

In the old monasteries and abbeys of mediaeval England, the gardens were practical things including fruit and vegetables for food, plants with pharmaceutical properties, aromatic plants as insect repellants and deodorants, and flowers for beauty. Cottage gardens were common in the days of Shakespeare.

With the growth of the British Empire in the 18th and 19th centuries and the accompanying flow of wealth from the far East, considerable interest in horticulture was developed by the wealthy landed gentry who began to build large parks and gardens around their manors. Many of these were of the Arcadian or Paradise type with idealised layout, using water in fountains, lakes and canals and set in wooded surrounds.

However, it was not the wealth alone that flowed out of the East, but also a range of beautiful and novel plant material. Through the arrival of paintings and ceramics depicting exotic plants and flowers and the reports of the travellers, such as the surgeons Cunningham and Kaempfer, who were stationed at the trading posts in China and Japan, it was realised that some extraordinarily beautiful and unusual plants grew in these countries.

Some of these plants were brought back to Europe by the Captains of the East Indiamen clipper ships, but soon botanical plant hunters

such as Franz von Siebold, John Reeves, Dr. Abels, Robert Fortune and others began to work the areas of interest. This applied particularly to China which proved to have an abundance of horticulturally desirable plants, both natural species and horticultural cultivars developed over centuries of gardening.

This material, sent back to Europe by the plant hunters, caused a sensation in horticultural circles. Camellias, magnolias, rhododendrons, paeonies, chrysanthemums, dogwoods, viburnums, roses, deutzias, liliums; the Dawn Redwood, the Dove tree and the Ginkgo; the list is endless.

The advent of this material caused a colourful change in the great English gardens, with masses of flowering rhododendrons and camellias backed by magnolias and other Chinese trees. This soon spilled over into Europe and North America where many other magnificent gardens were soon in being, so that there were developed some of the most beautiful gardens the world has seen, nowadays mostly open to the people, due to the activities of such bodies as the National Trust.

In Australia and New Zealand, where most homes include a private garden of some sort, the plants of China are grown by everyone.

However, one of the most remarkable introductions to the Western world from China was of recent years, and the material was made available at a very difficult period in China's recent history, through the helpful and friendly co-operation of the scientists of the Kunming Botanical Institute. I refer to the advent of the Kunming Reticulatas.

It was not only because of the large and extraordinary contribution made by China over the past 200 years to the gardens of the world, but more specifically due to this very recent benefaction of the large group of C. *reticulata* cultivars, as well as a number of camellia species of great interest, that led Mr Harold Fraser of Wagga Wagga, Australia to make the suggestion that these facts should be recognised in a suitable manner.

This suggestion was put to the International Camellia Society at its recent Congress in Sacramento where it was agreed that Mr Fraser should investigate the possibility of planting a Garden of International Friendship at the Kunming Botanical Institute, as a small token and an expression of appreciation and gratitude owed to China for sharing the riches of her plant kingdom with the rest of the world.

Approval from China was quickly forthcoming and so today, on this site are gathered together representatives from most countries in which camellias are grown.

Therefore, before the assembled company I have much pleasure in dedicating this camellia garden, on their behalf, to the cause of lasting peace and enduring friendship between the peoples of China and those of the nations here represented.

May this work, here begun in amity, be conducted in harmony and completed in concord.

The Genus Camellia Yunnanea and Primitive Species of Yunnan Camellia

Le genre *Camellia yunnanea* et les espèces primitives de camélias du Yunnan

El género *camellia yunnanea* y especies primitivas de la camelia de Yunnan

Il genere *Camellia Yunnanea* e specie primitive de camelia dello Yunnan

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1. Chinese Historical Literature on the Genus Camellia

As early as the 11th century B.C. it was recorded that, when the Emperor Zhou-Wu sent an army to suppress the fatuous Emperor Shang Zhou, the participant hordes in Sichuan paid tribute in tea to the Imperial Court. The first copy of the Chinese Materia Medica records that Kutu (otherwise cha or tea) grew in mountain valleys and beside mountain paths. It could survive severe winters and was picked in March. This demonstrates that, as early as the Zhou Dynasty, tea was used as medicine and beverage. In the Tang Dynasty (760-780 A.D.) an expert on tea, Lu Yu, wrote a book entitled "Scripture on Tea" in which he systematically summed up many valuable practical experiences gained during various Dynasties

and gave detailed accounts of the origin of tea, tea planting and the picking and processing of tea, with qualifications and effects of the water used for infusion. This is the earliest specialized writing which confirms China as the native country and original utilizer of tea.

India, a country with a long and ancient culture, had no writings on tea until the Italian priest, Giovanni Maffei, wrote about it in his book, "The Indian History".

From about the 8th century, as communications between nations were improved, the tea plant, its culture and the technique and lore of tea making and drinking, spread to Japan, Sri Lanka, India, Indonesia and Russia. From these countries it has spread to 40 or more other countries and districts. In modern times it has become one of the three staple drinks of the world.

With reference to the *Camellia,* China has had considerable experience and a long history of its culture and has bred many varieties and grown many species. In the Song Dynasty, about 1150 A.D., Xu Zhizhong wrote a poem in praise of the Camellia. His contemporary, Fan Chengda (1128-1193 A.D.) wrote a book in which Camellias are mentioned. More especially the author, Pu Song Ling (1640-1715 A.D.) from Shandong, wrote of it in his story entitled "Xiangyu" (fragrant jade) as follows:

"In the Abbey of Xiaqinggong on Mount Loshan there is a tree called Naidong (winter resistant) which attained the height of 20 Chi (7 metres)".

This is at the northern margin of the naturally occurring Camellia area (North Latitude 36°11′). In short, there are plentiful records concerning Camellias in historical documents in China.

2. A Survey of Systematic Studies of the Genus Camellia

The Swedish Botanist Carl Linnaeus first published *Thea* Linn and *Thea sinensis* Linn. in 1753. Later, in the same year, he published *Camellia* Linn. and *Camellia japonica* Linn. and these were adopted by later botanists.

W. T. T. Dyer (England) first divided the Genus *Thea* Linn. into two Sections: Section *Camellia* and Section *Thea.* (vid. H. K. f., Flora Brit. India 1 : 292-3, 1874). Pierre (France) added to the Genus *Thea* Linn., three Sections, namely: Section *Stereocarpus* Pierre; Section *Camelliopsis* Pierre and Section *Piquetia* Pierre (vid. Flora Forest Cochinchine 11 sub. t. 119, 1887). Cohen Stuart then added to the genus *Camellia* Linn. the Section *Theopsis* Cohen Stuart (vid. Med. Proefst. Thea, 40 : 66-73, 1916) and at the same time he re-aligned Genus *Calpandria* Blume into Section *Calpandria* (Bl.)

In 1921 H. Hallier upgraded Section *Stereocarpus* Pierre as Genus *Stereocarpus* (Pierre) Hallier. Then Nakai (Japan) divided the Genus *Camellia* Linn. into five Sections (vid. Journal Jap. Bot. 16, 1940), upgraded the Section *Theopsis* Cohen Stuart and founded the Genus *Camelliastrum* Nakai.

Sealy (England) amalgamated all these Genera into Genus *Camellia* Linn. and founded 12 Sections within the Genus. (vid. "A Revision of the Genus Camellia" 1958) namely:

Archecamellia Sealy; *Stereocarpus* (Pierre) Sealy; *Theopsis* Cohen Stuart; *Camelliopsis* (Pierre) Sealy; *Piquetia* (Pierre) Sealy; *Thea* (Linn.) Dyer; *Corallina* Sealy; *Calpandria* (Bl.) Cohen Stuart; *Pseudocamellia* Sealy; *Heterogenea* Sealy; *Camellia* (Linn.) Dyer; and *Paracamellia* Sealy.

In China, Professor Hu Xianxiao published Genus *Yunnanea* Hu in "Acta Phytotax. Sin. 5, 1956". Later, however, Hu amalgamated it into Genus *Camellia* Linn.

In 1981 Professor Zhang Hongda of the Sunyatsen University, systematically studied the Genus *Camellia* in East Asia and in his "A Taxonomy of the Genus Camellia", 1981, divided it into 4 Sub-genera and 19 Sections. (See I.C.S. Journal 1983, p.69).

3. Geographical Distribution of the Genus Camellia

The Genus *Camellia* is native to East Asia. It ranges from East Longitude 85° to 150° and from North Latitude 37° to South Latitude 10°. It is distributed in China, Japan, Vietnam, Laos, Cambodia, Thailand, Burma, India, Bhutan, Sikkim, Nepal, Indonesia, Philippines and Malaysia. There are about 200 species in all. China with about 180 species makes up 90% of the species in the world. They are concentrated in South China, especially in the Provinces of Yunnan, Yuangxi and Guangdong, all located near the Tropic of Cancer.

More than 70 species occur in Guangxi; 63 species and 5 sub-species in Yunnan; 51 species in Guangdong; 29 in Sichuan; 25 in Hunan; 23 in Guizhou; 23 in Jiangxi; 13 in Zhejiang; 12 in Fujian; 9 in Hubei; 8 in Taiwan; 6 in Anhui; 5 in Jiangsu; 4 in Shanxi; 2 each in Shandong and Xizang (Tibet). There are no Camellias distributed in the other Provinces of China. However 23 species occur in Vietnam, 8 in Burma; 6 in Japan; 5 each in Laos and India; 3 in Thailand, 2 each in Nepal, Bhutan and Sikkim; 1 each in Malayasia, Indonesia and the Philippines.

According to Professor Zhang Hongda, the

provinces Yunnan, Guangxi and Guangdong have been the modern distribution centre as well as the centre of origin of the Genus *Camellia.*

Of the 63 species in Yunnan all, except the cultivated species *C. japonica* Linn., *C. sinensis* Ktze, and *C. oleifera* Abel, are wild; 23 species to the south and 21 species to the north of the Tropic of Cancer and 16 common to both sides.

From what can be seen the distribution of the Genus *Camellia* is rather narrow. Except for Guangxi, Yunnan has the greatest number of endemic species, that is, 33. This is closely related to the complication of Yunnan's topography, terrain and climate. Owing to the varying environmental pressures of the area new species can be created but can only be spread with difficulty, hence the phenomenon of isolation.

4. The Primitive Species of the Yunnan Camellia

As one of the famous flowers of the world the Yunnan Camellia has long been known for its large flowers, bright colours, great varieties, long florescence and spring blooming. It is admired by people of all nationalities alike in Yunnan. It is grown in beauty spots and in public and private gardens and courtyards. Admiring Camellias in the Spring Festival has become a tradition in various parts of Yunnan. Modern young people like to use it as wedding decorations and it has been used on Postage Stamps and as brands of Television Sets, Radios and cigarettes. In 1981 the Yunnan Camellia was selected as the Municipal flower of Kunming. In short, the Camellia and the people of Kunming have entered into an indissoluble bond. For this reason huge Camellias of 300, or even more, years of age occur in Kunming and many other Yunnan Counties.

Although the Yunnan Camellia has a long history of culture its Botanical name, *Camellia reticulata* Lindl., was first published by Lindley in Curtis's "Botanical Magazine", 1827. It was a cultivated variety of semi-double form. Horticulturalists and Botanists in China use *C. reticulata* as the botanical name of such Camellias as 'Zaotaohong' (Early Crimson), 'Shizitou' (Lion Head) and 'Juban' (Chrysanthemum Petal); yet where are their ancestors (primitive species)? This did not occur to people until the 1950's.

It is now known that there are large areas of forests of Camellia plants identical to that published by Sealy as *C. reticulata* f. *simplex* Sealy in 1958. Through checks and observations we have associated it with the cultivated Yunnan Camellia. However it has smaller flowers arranged in one whorl of 5-7 or 7-9 petals. It is in fact the primitive species of the Yunnan Camellia. Following are the morphological characteristics of the plants as observed in its native habitat at Tengchong:

Small to large tree, 5-15 metres high (16.5 metres for the highest), girth up to 62 cm; leaves oblong-ovate, ovate-lanceolate, oval, obovate-oval, lanceolate, 5-15 cm long, 3-7 cm wide. Leaf shape is not stable and has great variability.

Bracts, 5-7 in 2-4 whorls, imbricated, silver-brown, densely short pilose on outside. Sepals 5-7 in 2 whorls, imbricated, broad-ovate, 1-2 cm in diameter, margins membranous, silver-brown pilose both sides.

Petals, 5-7 or 9-11 or more, obovate, subrotund, broad-lanceolate, etc., 4-6 cm long by 3-4 cm wide in 2-4 whorls, imbricated; flower type trumpet shaped, magnolia, lotus, semi-curvate, butterfly winged; flower colour pink, silver-red, deep red.

Stamens numerous, united at base forming a tube, symphysis with petals at base or divided into several fasciles, (becoming Yunnan Camellias); pistil, 1; ovary spherical, 3-5 cell, style branched at top into 3-5 arms. Capsules, spherical, thin walled spheroidal, thick walled; conical, thin walled. Many different names were given to the fruit depending on the different shape of the fruit and as to whether the walls of the epicarp are thick or thin.

Moreover, when petal numbers increased, the pistil and stamens changed to petaloids so that some plants are sterile. These plants have large flowers and are of high ornamental value. They are called "Xianyecha" in the local area. In short, with the *C. reticulata* forma *'simplex'* Sealy as growing wild near the Yunhua township, Tengchong County, there is great variability and complication of plant height, leaf shape, flower type and colour, florescence and fruit shape. Therefore it is my assumption that it is a hybrid species. It may be related to *C. saluenensis* or *C. yunnanica.* Therefore its nomination as a species is a misfortune. According to the unreasonable regulations of International Botanical Nomenclature the cultivated species has to be treated as the original species and the wild species is its forma *'simplex'.*

C. reticulata forma 'simplex' is distributed in the Counties Tengchong, Yongping, Dali, Weishan, Fengqing, Kunming, Songming, Yilang, Yuliang and Tonghai in Yunnan; the wide area of North Latitude 25°30′ to 23° and

East Longitude 98°10′ to 104°30′. Amongst them Tengchong County has the greatest part of the distribution.

Data on the area around Yunhua, Fengchong County is as follows: Location North latitude 25°7′; 1628 metres altitude; annual average temperature, 15.2°C, average temperature of hottest month, 20.2°C with a maximum of 30.5°C. Average temperature of coldest month 8.2°C with lowest −6.7°C. Annual rainfall 1495 mm, precipitation in spring, 235 mm. Relative humidity 79%. Surrounding terrain is highest to the south-west and south-east. To the north is the Dalucong Mountain with 2800 metres altitude.

The area is a mountain fastness with a mixed culture of farming, forestry and animal husbandry, mostly the latter. Dalucong Mountain is covered with sub-tropical, broadleaf, evergreen secondary forest. Dayun Mountain to the south-west is an extinct volcano with an altitude of 2700 metres. It is sparsely covered with *Alnus nepalensis* and grass.

All around mountains reach to the sky. They are mostly igneous rock and are severely weathered with exposed rock but relatively gentle slopes. The red soil is inclined to be acid with a pH of 6.0. It is deep and fertile and of a porous nature. Mild slopes below 2400 metres are cultivated by non-irrigated farm land growing buckwheat, potatoes, rape and maize. At altitudes of 1800-1900 metres trees of economic use are planted such as *Toona sinensis, Catalpa duclouxii, Lindera communis* and *Pinus armandi.*

Grassy slopes or evergreen, broadleaf, secondary forest and shrubs occur over 2400 metres. From 1800-1900 metres are terraced fields and a river valley. The river Xiangshuigou runs northwards through the district. It has a small summer flow and is subject to occasional floods in the rainy season.

Pristine forest are nowhere to be seen. Most areas have been reduced to secondary growths. Magnolias, Cinnamons, Camellias and Beeches are the staple trees. Species that can be seen include: *Manglietia insignis* (Wall) Bl., *Michelia florabunda* Fin. & Gagn. *Cinnamomum glanduliferum* Meisen. *Neocinnamomum delavayi* var. *'mekongensis'* (H-M) allan; *Lindera communis* Hemsl., *Neolitsia aurata* f. *glabrescens* Liouho.; *Phoebe* ssp.; *Schima khasiana* Dyer; *Schima yunnanensis* Chang; *Gordonia yunnanensis* (Hu) Li.; *Cartanopsis delavayi* Tr.; *Lithocarpus hancei* (Benth.) Rehd.; *Cylobalanopsis augustinii* (Shan.) Scottky.; *C. glaucoides* Scottky.; *Ilex* ssp.; *Symplocos* ssp.; etc.

Besides the evergreen, broadleaf, secondary forest, *Pinus yunnanensis* is very common here, often forming a pure forest.

The belt ranging from 1900 to 2300 metres has become a forest of *Camellia reticulata* Lindl. forma *'simplex'* Sealy owing to long time culture and management, with a history of 300 to 400 years. In the late winter and early spring the area is covered with charming and striking pink and red Camellias forming a Shangrilla. Huge plants of 15 to 16 metres height and girths of 40 to 60 cm occur commonly here. The Camellia forest is dotted with *Pinus huashamensis, Lindera communis*, the Chinese Toon, Walnuts (*Juglans regia*); the Chinese Strawberry (*Myrica rubra)*; *Taiwania flousiana* Rich.; *Taxus yunnanensis* Cheng & Fu; many of them growing around households. In the vicinity of farm houses and villages are stands of pure bamboo and towering palms are everywhere.

5. Camellia Varieties in the Camellia Woodlands of Tengchong

As mentioned previously the *C. reticulata* f. *'simplex'* Sealy is the ancestor of the Yunnan Camellia. During our search we selected 35 further varieties. With further investigation there will be many more located. Having observed the flower type and numbers of petals of *C. reticulata* F. *'simplex'* we know that it evolves according to Darwin's theory, from simple to complex; from elementary to advanced; that is from a primitive single to semi-double to double petalled type.

Following are the specific names given to the Camellias selected from the Camellia woods of Tengchong:

I. Single Group
   1. Trumpet Type
      Flushed White Jade (Biyu)
      Beauty Twin (Erqiao)
      Pinkish Jade (Fenyu)
   2. Magnolia Type
      Small Magnolia (Xiaoyulan)
      Pretty Magnolia (Qiaoyulan)

II. Semi-double Group
   3. Lotus Type
      Early Sunshine (Dajinsui)
      Golden Heart Scarlet (Jinxin Dahong)
      Lotus Pearl (Lianpian Tuozhu)
      Beautiful Jade (Caiyu)
      Large Cloudy Petal (Dayunpian)
      Crimson Corn Poppy (Yumeiren)
      Happy Spring (Xiyinchun)
      Silver Lotus (Yinhehua)
      Rosy Clouds (Fenzhaoyun)
   4. Semi-Crooked Petal Type

Pink Hibiscus (Shuifurong)
Pink Star (Fenhongxing)
Rolling Crimson (Quban Taohong)
Osmanthus Leaf Crimson (Guiye Taohong)
Morning Glory (Zhaoxia)

5. Butterfly Wing Type
Rolling Butterfly Wings (Juanban Diechi)
Yunhua Camellia (Yunhua Cha)
Small Crimson (Xiaotaohong)
Fairy Pink (Xianye Cha)
Crimson Perfection (Taohong Zhaoyang)
Broad Leaf Butterfly Wing (Tuanye Diechi)
Flying Clouds (Feixia)
Crimson Lion (Yushizi)
Sunset Glory (Fendan)
Crimson Ball (Taohong Xiuqiu)
Crimson Mume (Hongmei)
Crimson Five-heart (Hongwuxin)
Late Spring (Songchungui)

III Double Petalled Group

6. Paeony Type
Crimson Paeony (Taohong Mudan)
Double Paeony (Lianmudan)
Crimson Petaloid (Hongjinling)

10. Section *Thea* (Linn.) Dyer
C. kwangsiensis Chang
C. quinquelocularis Chang et Liang
C. crassicolumna Chang
C. pentastyla Chang
C. taliensis Melchior
C. irrawadiensis Barua
C. crispula Chang
C. gymnogyna Chang
C. costata Hu et Liang
C. yungkiangensis Chang
C. sinensis Ktze
C. sinensis var. *assamica* Kitamura
C. parvisepala Chang
C. tachangensis F. S. Zhang
C. tahieshensis F. S. Zhang

11. Section *Glaberrima* Chang
C. glaberrima Chang

IV. Subgen. *Metacamellia* Chang

12. Section *Theopsis* Sealy
C. cuspidata Wright
C. crassipes Sealy
C. forrestii Cohen Stuart
C. forrestii var. *acutisepala* (Tsai et Feng) Chang
C. callidonta Chang
C. costei Levl.
C. tsaii Hu
C. tsaii var. *synaptica* Chang
C. rosthorniana Hand.-Mzt
C. stuartiana Sealy
C. percuspidata Chang
C. membranacea Chang
C. tsingpienensis hu
C. trichandra Chang

13. Section *Camelliopsis* (Pierre) Sealy
C. wenshanensis Hu
C. candida Chang
C. caudata Wall

6. The List of the Genus Camellia from Yunnan

I. Subgen. *Protocamellia* Chang

1. Section *Stereocarpus* (Pierre) Sealy
C. yunnanensis (Pitard ex Diels) Cohen Stuart
C. liberistyla Chang
C. liberistyloides Chang

II. Subgen. *Camellia*

2. Section *Oleifera* Chang
C. oleifera Abel

3. Section *Paracamellia* Sealy
C. confusa Craib
C. kissii Wall
C. tenii Sealy
C. brevistyla (Hayata) Cohen Stuart
C. phaeoclada Chang

4. Section *Pseudocamellia* Sealy
C. trichocarpa Chang
C. henryana Cohen Stuart

5. Section *Tuberculata* Chang
C. obovatifolia Chang

6. Section *Camellia*
C. mairei Melchior
C. lapidea Wu
C. albovillosa Hu
C. albescens Chang
C. reticulata Lindl.
C. reticulata Lindl forma *'simplex'* Sealy
C. pitardii Cohen Stuart
C. pitardii Cohen Stuart var. *yunnanica* Sealy
C. crassissima Chang
C. xylocarpa Chang
C. saluenensis Stapf
C. boreali-yunnanica Chang
C. japonica Linn.

III. Subgen. *Thea* (Linn.) Chang

7. Section *Corallina* Sealy
C. wardii Kob
C. pentamera Chang
C. scariosisepala Chang
C. acutiserrata Chang

8. Section *Brachyandra* Chang
C. muricatula Chang
C. szemaoensis Chang

C. pachyandra Hu
C. crassipetala Chang
C. yangkiangensis Chang

9. Section *Longipedicellata* Chang
C. indochinensis Merr

Seedling Breeding with Camellia chrysantha

Culture de plants avec le *Camellia chrysantha*

Cultivo de plantas de semillero con *camellia chrysantha*

Produzione da piantine con la *Camellia chrysantha*

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There are about 200 species of the Genus *Camellia* in the world of which 90% are concentrated in south and south-west China. Plants of this Genus have been used for their flowers, for oil and beverages and have an important position in the national economy. At present those that are grown all over the world as ornamentals are mainly the following three species:

1. *Camellia japonica* which is native to Japan and China and is cultivated in regions south of the Yangtse River. There are only a few varieties in China.
2. *Camellia reticulata* which is native to Yunnan. This species has large flowers with bright colours. The trees of this species can be several hundred years old. Recently it was chosen as the municipal flower of Kunming.
3. *Camellia sasanqua* which is native to Japan and China.

All these three species have a long history of cultivation and have enjoyed general popularity in the field of international horticulture. Through the arduous efforts of horticulturalists of all countries many thousands of varieties have been cultivated. In the past most varieties were bred by intraspecific hybridization within a species or interspecific hybridization amongst a few species. They therefore varied within a narrow range. Amongst the present varieties and species most are only red or white and there is no white in *C. reticulata.* Moreover they have no scent. Requirements set forth by present day breeding, such as aroma, variation in flower colour and type can not be achieved by hybridization within a few species. These goals can be obtained only through distant hybridization (interspecific or intergeneric), by introducing advantageous genes of different species to promote interspecific gene combinations and create varied types. In this respect modern horticulturalists of many countries are working hard to cultivate fragrant and hardy varieties.

It has been the common wish and goal of camellia lovers the world over to cultivate new yellow and orange coloured camellias. As early as 1958 the Kunming Botanical Institute set forth a goal, to cultivate camellias of new colours. They made every effort to search for camellia species with yellow flowers. The Chinese botanists, for the first time, discovered a camellia plant with yellow flowers — *Camellia chrysantha* — in Guangxi in 1965. Through many years of searching and investigation by the botanists, we have discovered 11 species and 1 variety of camellias with yellow flowers, amongst which 10 species and 1 variety occur in Guangxi. The other species occurs in Guizhou.

In 1973 our Institute obtained the first batch of seedlings by hybridization with pollen of *Camellia chrysantha* and since then hybridization has been carried out each year. In 1978 the hybrid seedlings began to bloom.

Following is a brief introduction to the experiment and its result.

Material and Method of Experiment

This experiment was conducted according to the convention of using as female parent, the camellia plants cultivated at Kunming Botanical Institute and as male parent *Camellia chrysantha* growing wild in Guangxi. While the maternal plants were in full bloom, branches with flowers were collected from Guangxi and kept in refrigeration. To increase the fertilization percentage it was necessary to check the vitality of the pollen. The method used was that of germination. Pollen grains were sown on a culture medium of 5-10% sucrose solution or agar and then held at a temperature of 20-25°C for 1 or 2 hours. It was then taken out

Table 1 Camellia Species Used in Hybridization Studies

Scientific Names	Source
Camellia reticulata 'Gongtan'	New variety cultivated at Kunming Botanical Garden
C. reticulata 'Hongwan Cha'	New variety cultivated at Kunming Botanical Garden
C. reticulata 'Zaotaohong'	Cultivated variety at Kunming Botanical Garden
C. reticulata "seedling"	Seedling cultivated at Kunming Botanical Garden
C. reticulata f. simplex	Cultivated at Kunming Botanical Garden. Introduced from Tengchong
C. pitardii var. *yunnanica*	Introduced from Songming
C. saluenensis Stapf ex Bean	Introduced from the vicinity of Kunming
C. japonica 'Zhudinghong'	Introcuded from U.S.A.
C. japonica 'Qingkou'	Introduced from U.S.A.
C. chrysantha (Hu) Tuyama	Introduced from Guangxi

and examined under a microscope to observe the germination of the pollen. Only pollen with vitality was used for hybridization. Before pollination, flowers were chosen on the female parent which were about to bloom or half open (with anthers unsplit). These flowers were then castrated with forceps and pollen of proven vitality smeared on the styli. Finally the fertilized flowers were enclosed in paper bags for isolation and labelled. Thus pollination was over.

From this table we find that 4 species were used as female parents in hybridization, the male parent being *Camellia chrysantha.* A total of 674 flowers were pollinated, representing 9 interspecific hybridization combinations. From 630 flowers of 6 combinations, 77 fruits were obtained containing 456 seeds. From these, 228 seedlings were obtained. The other three combinations fruited but the seeds were tiny and without plumule. Only 39 larger seedlings survived from the 228. The reason was that, with such wide interspecific hybridization, the seeds obtained formed many, very weak seedlings, most of which grew slowly without fibrous roots. They gradually died away when

Table 2 Hybridization, Pollination and Fruition (1976-1977)

Cross Combinations	Pollinations	Fruition		Seeds	Seed Quality	Emergence	
		No.	Rate			No.	Rate
C. reticulata 'Gongtan' × *C. chrysantha*	100	22	22%	106	Good	73	68.8%
C. reticulata 'Hongwan Cha' × *C. chrysantha*	9	1	11%	8	Ill-developed	4	50%
C. reticulata 'Zaotaohong' × *C. chrysantha*	26	5	19.2%	32	Poor, hollow empty, small	9	28.1%
C. reticulata "Seedling" × *C. chrysantha*	260	30	11.5%	246	Ill-growth	129	52.4%
C. reticulata f. *simplex* × *C. chrysantha*	20	1	5%	8	Ill-developed	4	50%
C. pitardii var. *yunnanica* × *C. chrysantha*	214	18	8.4%	61	Most ill-growth	13	21.3%
C. japonica 'Qingkou' × *C. Chrysantha*	8	2	25%	5	Small hollow no plumule		
C. japonica 'Zhudinghong' × *C. chrysantha*	20	2	10%	2	Small hollow no plumule		
C. saluenensis × *C. chrysantha*	16	3	18.7%	2	Hollow no plumule		

Table 3 Morphological Contrast

	Cotyledon Number and Colour	Leaf Shape	Stalk Length	Tip Sprouting
Female	2 pieces, milky yellow	Oval to Broad-Oval	Almost no stalk	One
Male	3-5 pieces purple red	Oblong	1 cm.	Twice-thrice
F.1	2-4 pieces milky yellow, purple red	Long-Oval	With and without stalk	Once-twice

the nourishment in the cotyledons was exhausted. Also, owing to poor conditions and the disappointing quality of the potting medium, many died through poor management after planting out.

From the external morphology of the plants obtained the following variations can be discerned.

Though certain variations can be seen from the external morphology such distant hybridization is very complicated. The colour of the flowers of the existent plants remained in the red group. Whether the variations demonstrated real fertilization or whether it was only the combination and exchange of part of the hereditary substance only cytological study can tell. It should be noted that the hybridization was carried out in one direction only and not yet in the other reverse direction.

This is only part of the work of seedling breeding that has been done at the Institute with *C. chrysantha* as male parent.

The Reeves Paintings

Les peintures de Reeves

Las pinturas de Reeves

I dipinti di Reeves

JOHN TOOBY * See colour section

The distinctive ornamental plants of China excited the interest and admiration of British traders from the earliest times they visited your great country. Two events combined to increase this interest early in the nineteenth century. The London Horticultural Society was founded in 1804 by a group of enthusiasts of whom Sir Joseph Banks was the most influential. In 1812 John Reeves, a man who combined expert knowledge of tea with great enthusiasm for natural history, went to Macao and Canton as an inspector of tea for the British East India Company. When he came home on leave in 1816 he met Banks and, after returning to China, arranged with the Society to send home plants and paintings of plants. A steady stream of paintings flowed to London; he bought a few and then arranged for artists to live in his house in Macao and paint the subjects he wanted. As you will see they are of great accuracy and beauty.* He also bought plants from the Fa-tee gardens in Canton and from Chinese friends and established them in pots for the long journey home. Among the plants he sent were chrysanthemums, paeonies, azaleas, an ornamental cherry and the Wistaria. But few of his plants arrived alive. So the Horticultural Society decided to send experienced gardeners who would be able to select plants over a longer period and, more important, look after them on the way home. John Potts who went in 1821 had unfortunately contracted tuberculosis before he left England. In spite of being ill, in Canton he got together a good collection, particularly of chrysanthemums but including some camellias and other plants. However he was still dogged by misfortune for on the way home his ship ran aground near the Cape of Good Hope in South Africa and most of his plants were thrown overboard to lighten the ship. He is remembered as the first man to bring back seed of *Primula sinensis* but sadly he died soon after his return. John Damper Parks followed in 1823, returning in 1824. Parks amassed a large collection and sent back 38 cases of plants in nine different ships. Both men were hospitably received by Reeves in Macao. Parks relates in his manuscript journal that he met Captain Rawes there and was able to show him plants of *C. reticulata* — the cultivar which now bears his name — which he had bought in Canton. The two men agreed that this must be a new species and speculated that it might be the double yellow camellia 'Shocq-tcha' which was rumoured to grow somewhere in south China.

In 1830 the London Horticultural Society was in one of its financial crises and asked Reeves to stop sending plants and paintings. This crisis must soon have been overcome as it seems that someone else, presumably a former colleague, continued to send paintings for a few years after Reeves retired as chief inspector of tea in 1831. John Lindley, already Professor of Botany at London University, was appointed in 1832 as Assistant Garden Secretary of the Society and promoted to the post of Assistant Secretary in 1835. Clearly he must have had very little spare time but nevertheless he personally filled three portfolios with paintings

of Camellias (Vol. I and part of Vol. II). Chrysanthemums (remainder of Vol. II, part of Vol. III) and Tree-Paeonies (remainder of Vol. III). Then in 1840 he was made Vice-Secretary and had to carry out most of the administrative work. The remaining paintings were put into five further portfolios without further sorting.

Less than 20 years later, in 1859, the Society faced another financial crisis. The headquarters building and the magnificent library were sold (for pitifully low prices) to help clear the debts. Then in 1936 the five unsorted portfolios returned to the Society, now the Royal Horticultural Society, as part of the bequest from Reginald Cory, a prominent horticulturist and industrialist. The three remaining portfolios were offered to the Society and repurchased in 1953.

The paintings speak for themselves, they are accompanied in many cases by numbers, in some by Chinese characters and in a few by English names. Three seem to call for some comment. 'Anemoniflora' the subject of the painting on the plates were used very successfully by Chandler and Buckingham as a seed-parent. They sowed a large batch of seed in 1819 and were rewarded by over 100 seedlings of which they introduced 10 or 12. Three of these are still commonly grown in England, namely 'Althaeiflora', 'Elegans' and 'Eximea'. The 'Hexangularis' appears several times and was responsible for much disappointment; it is now clear that the hexangular arrangement of the formal double flowers was due to the warmer climate of China and even if the plants flowered true on the voyage home the relatively cold and cloudy English summer lacked the necessary degree of warmth or light (or both) to produce the hexangular form in the developing buds. The third slide of interest may possibly be a painting of *C. rosaeflora.* In the 1820's both *C. maliflora* and Chinese garden forms of *C. oleifera* were thought in England to be forms of *C. sasanqua.* An English merchant in Macao, John Beale, had collected a few camellias and left them for Parks to pick up in the East India Company's building in Canton. Unfortunately the building was gutted by fire and the camellias were destroyed. In conversation with Parks, Beale referred to one of these plants as "The Intermediate Sasanqua". Beale had another plant in his garden and Parks budded some to bring home. A few of Potts' camellias had survived the voyage home, but only as understocks, the scions having died. Some of these rootstocks proved to be a species new to England, *C. euryoides.* Then in 1858 Hooker published a plate of *C. rosaeflora* which had been found at Kew, the gardens having been in a poor state since Banks' death in 1820. Whether one of Parks' plants survived or whether *C. rosaeflora* had been used as a rootstock is a matter for conjecture.

Reeves maintained a number of paintings himself and after his death his daughter donated them to the British Museum (Natural History) where they remain. Of equal beauty and in better condition (as far as I saw them) they lack the interest of the R.H.S. series.

In preparing this paper I must acknowledge the great help which has always been accorded me by the staff of the Royal Horticultural Society's Lindley Libray.

A Historical Review and Future Development of Camellia reticulata in Yunnan

Analyse historique et développement future de *Camellia reticulata* au Yunnan

Reseña histórica y futuro desarrollo de la *camellia reticulata* en Yunnan

Una rassegna storica e lo sviluppo futuro della *Camellia reticulata* nello Yunnan

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It is my great pleasure and high honour to attend this International Camellia Symposium in Kunming and to have an opportunity to speak with so many specialists and amateurs about the Yunnan Camellias. We are in the native country of the Yunnan Camellia, in its flowering season, to hold a Camellia conference and to plant a Camellia 'Garden of Friendship' in Kunming Botanical Institute. This is really an excellent design and best arrangement from our good friend Mr H. A. Fraser, an active member of the Australia Camellia Society.

There is an old proverb in China, "Fine weather, a favourable geographical position and a co-ordination within one's own ranks, are three essential factors for the success of everything." I would like to offer my hearty congratulations on the opening of this conference. It will make great achievement both in horticultural science and in international friendship between many countries.

Today, my topic is "A Historical Review and Future Development of *Camellia reticulata* in Yunnan".

A. The History of Cultivation and Introduction of Yunnan Camellias

It is well known that the enormous garden varieties cultivated in the world mainly belong to three species in botany. First is *C. japonica* L., the second *C. sasanqua* Thunb. and the third *C. reticulata* Lindley. But today I shall speak only about the newly developed popular Yunnan camellia *C. reticulata,* its history of cultivation in China and its introduction into other countries.

According to the Chinese literature, *C. reticulata* was cultivated in China as early as the Sui and Tang dynasties, over thirteen hundred years ago. The old names of Yunnan Camellia were "Hai-Liu" or "Hai-Shi-Lin". After Bei-Sung dynasty in ninth century it was called "Shan-Cha-hua", the same as the common name at the present time.

A book on the history of Yunnan province, published in the sixteenth century, indicated: 'The camellia is the best under the heaven' Xie Chao-zhi of the Ming dynasty described 72 cultivars; Teng Mei composed a poem of two hundred lines in which he pointed out the ten excellences of Yunnan Camellias; Chao Pu wrote a genealogical record of the Camellia listing nearly a hundred sorts. Unfortunately all these original works were lost, but reference to them was made in the provincial historical record. The name "Nan-Shan-Cha" was included in the important Herbal, Ben-Tso-Kon-Mu written by Li Shi-Chen in 1590. A book entitled Chi-Wu-Min-Shi-Tu-Kao, written by Wu Chi-Tsun in 1848, gave a full description and some critical notes on this plant. Another semi-monographic note of importance is the Tien-Nan-Cha-Hua-Hsia-Chi, written by Feng Shu-mei in 1930. He gave a brief history of Camellia cultivation and a short literary description of the 72 kinds of Camellia grown in local gardens and also included a collection of poems and songs on Camellias from the early Ming dynasty to the beginning of the Republic. This is of considerable historical importance in the studies of the cultivated camellias in Yunnan province. In 1938-45, I worked in the Yunnan Botanical Institute and visited several gardens and temples near Kunming and Tali that were famed for their Camellia culture. However, I failed to find as many varieties as were cited in the old literature. I have only identified 18 distinct varieties and I made a report on this in the Camellia and Magnolia conference held by the Royal Horticultural Society in London in 1950.

The introduction of this marvellous plant and its garden varieties to the western world was done only in recent times, within the last 150 years. Its scientific name *C. reticulata* was first given by an English botanist Dr. J. Lindley and published in the Botanical Register t.1078, 1827. It was a semi-double form collected by J. D. Parks, a member of the London Horticultural Society in 1824. Before this introduction, in 1820 Capt. R. Rawes had also brought a garden form from Canton, S. China and named "Capt. Rawes" and in 1857 an English botanist Mr Robert Fortune, in the exploration of the China tea industry, collected another more formal flowered variety, grown in Kew Gardens, which has the name "Robert Fortune" or "Pagoda". In 1912-14, the Royal Botanic Garden at Edinburgh organized an expedition to Yunnan and sent George Forrest to collect plant specimens and seeds. From his collection of seeds in the hills around Tengehun, the type of *C. reticulata* var. *simplex* was grown. It purported to be the truly wild form of the Yunnan camellia, and has received an Award of Merit from the Royal Horticultural Society. Most of the Camellias that were planted in the greenhouse of several European Botanic gardens probably originated from such a source.

The first introduction of garden varieties of the Yunnan Camellia to America was done in 1948-50. Due to the effort and enthusiasm of late S. Peer and the great interest in Yunnan Camellias of W. E. Lammerts, a world famous hybridizer and former research director of Descanso Gardens in California. They have had correspondence with late Prof. H. T. Tsai, Director of Yunnan Botanical Institute, and he delivered several potted plants of garden varieties by air mail. It was a rather difficult job during the Sino-Japanese war. They were soon distributed to different parts of the world and used quite extensively in the hybridizing program of several camellia enthusiasts in America, Australia, England, Japan, New Zealand and other countries. According to

the records of Camellia Nomenclature in 1974, the total number of *C. reticulata* & hybrids with reticulata parentage was 155 named cultivars, in 1976 there were 211 **C. reticulata** named cultivars, in 1978 there were 243 named cultivars.

The botanical garden of Kunming Institute of Botany, Academia Sinica, has also carried out a series of intraspecific and interspecific hybridizations. There are more than 105 named varieties published in the "Illustrated Book of Yunnan Camellia (1981)". It is about 6 times the number of varieties compared with my record in the Camellia & Magnolia Conference in 1950. They do not include many intraspecific hybrids which have not yet flowered, so that it will be some years before their merit can be ascertained.

B. Suggestion on the Future Development of Yunnan Camellia

In the last few years, the Yunnan Camellia, by the elegance of its aspect, the persistency of its beautiful foliage, the size and the brilliant colouring of its blossom, has won the favour of all lovers of ornamental plants. However, compared with *C. japonica*, the Yunnan Camellia exhibits some weak points or shortcomings. For example, they are rather tender and not cold-resistant. The range of flower colours of Yunnan Camellia is rather limited being predominantly red and with very few variegated or whitish forms. No *C. reticulata* cultivars have yellow or blue flowers, and all are devoid of any fragrance. Although at present the flowering season is limited to the late winter and early spring, we hope in the future to have new varieties with longer blooming periods. Furthermore, there are still many wild species and varieties discovered and reported in some parts of Yunnan and neighbouring regions that will be potential breeding material. There are still many possibilities for camellia breeding that will result in future cultivars now only dreamed about by camellia breeders.

1. Creation of Yunnan varieties with greater cold hardiness

Yunnan camellias are mostly distributed in the subtropical and warm temperate regions, but there may be some wild varieties grown in the higher altitude of remote mountain parts with greater cold-resistance. Beside several relative species such as *C. pitardii, C. saluenensis, C. taliensis, C. japonica, C. oleifera,* etc. they usually prefer lower temperatures. It might be found that interspecific crosses have less cold tenderness or hybrid vigour of frost resistance. The relative intolerance of the Yunnan Camellia to severe cold is a definitely limiting factor in its cultivation and it is a problem that has not received the attention it deserves. In England the introduction of *C. reticulata* into hybrids has produced some very surprising improvement in hardiness. A combination of *C.* × *williamsii* and *C. reticulata* has proved a very hardy and consistent performer. Crosses between *C. reticulata* and *C. japonica* have not proved very useful to them out of doors (Gallagher J. T. 1977).

2. Extension of the colour range of the Yunnan Camellia

As the colour range and floral form of *C. japonica* cultivars are very variable, there might be greater variation in the Yunnan Camellia. For several years many Camellia enthusiasts have been feverishly anxious for a yellow one. In 1962 Mr. & Mrs. M. J. Whitman, Georgia, U.S.A. through intergeneric hybridization of *Tutcheria spectabilis*, have made several successful crosses resulting in seedlings with clear yellow flowers. (Threikeld J. L. 1962).

Since the discovery of *C. chrysantha*, in Kwangsi province, a true yellow Camellia variety will be produced before too long. It will be a good start leading to new colour breaks not only in yellow but also in a range of coral tones. In these few years more than twenty species with yellow and greenish yellow flowers have been reported in South China and North Vietnam.

At this conference, Prof. Chang Hung-ta will give a report of Revision of the Genus Camellia. His monograph recognizes 196 species of Camellia and describes 91 new species and 6 new varieties, which will no doubt be of great interest not only to botanists but also to Camellia growers and breeders.

3. Development of notable fragrance in Yunnan Camellia

In the genus Camellia there are several species and varieties with nice fragrance. There are already several fragrant strains and all varieties of *C. sasanqua* are scented. Then the recent introduction of *C. fraterna, C. kissii, C. lutchuensis, C. miyagii, C. oleifera, C. tsaii* are scented species, especially *C. lutchuensis* with rich pleasing scent and apparently compatible with several popular camellias. Besides there are several slightly fragrant hybrids of *C.*

japonica e.g. 'Fragrant Pink', 'Fragrant Pink Improved', 'Mrs Bertha A. Harms', 'Pink Perfume', 'Salab', 'Virginia W. Cutter'. All these might be useful parentage to breed the fragrant varieties of Yunnan Camellias (Ackerman & Dermen, 1972, Hallstone 1978).

4. Extension of the blooming season of Yunnan Camellia

There are three seasons of bloom in Yunnan Camellias. Early varieties flowering in December to January, medium varieties in January to February and late varieties in March to April.

Some authors speculated that early blooming hybrids of the reticulata type could be developed by crossing *C. sasanqua* with *C. reticulata*, back crossing the resulting F^1 hybrid to *C. reticulata* and selecting for earliness in the backcross progeny. Most workers have observed that hybrids bloom halfway between the flowering date of the parental varieties. Thus making it possible for the plant breeder to select an early or late bloom season. (Lammerts 1961; Savige 1969).

5. Selection of dwarfed Yunnan varieties for Bonsai plants

Most cultivars of the Yunnan Camellia are tree forms. Only one dwarf variety, "Hsu-tian-ko" or Dwarf Rose, is very popular in the local market. The typical dwarf exhibit has slow growth, smaller leaves, shortened internodes of stems and dense bushy habit. It may originate as seedling variations or as bud mutations. In both instances, the altered growth may be propagated true to type by own-rooted cuttings or by grafting. It is worthwhile to make interspecific hybridization between *C. pitardii, C. oleifera, C. sasanqua, C. taliensis* to examine and select a group of dwarf seedlings. Another experiment on the influence of different stocks to Yunnan Camellia; cuttings of *C. japonica,* 'Alba Plena' and seedling of *C. reticulata,* generally used will grow into tree form, if so try another bushy species of Camellia such as *C. sasanqua, C. pitardii, C. yunnanensis,* etc. which may have a different result.

6. Improvement of propagating method of Yunnan Camellia

In this country all the garden varieties are propagated by vegetative methods. Cuttings are very difficult to strike and only a low percentage of layers become established. It will take a long time, at least 3-4 years, to grow young grafted plants. Tissue culture or micropropagation has rapidly evolved into one of the major research tools in biology and medicine. It has adaption to large-scale industrial use in some areas of agriculture, horticulture and drug manufacturing.

Availability of selected garden varieties will increase the general popularity of the Yunnan Camellia and give new dimensions to landscape design of our country (Benneth, W. D. 1978, Hammerslag F. A. 1981).

7. Development of Cytological and genetic studies

Cytology and genetics are the fundamental sources for the plant breeders. The availability of genetic background information allows the breeder to plan realistic goals and to expedite them in a reasonable amount of time. The study of cytology, especially the chromosomes, is essential to an understanding of the relationship and hybridizing potentials between different species. Chromosomes are the carriers of the genes which in turn determine the inheritance of all plant and flower characteristics. Hybridization has become the principal method for the improvement and innovation of the garden varieties. Either intraspecific, interspecific or intergeneric hybridization should be put into practice to breed new varieties. We have plenty of wild species and varieties of Camellia also numerous cultivars in the garden. The cytogenetic studies of the Yunnan Camellia have shown convincingly that the breeding potentiality is rather great. Through the cooperation of specialists and amateurs, much more outstanding cultivars of the Yunnan Camellia will be blooming in the gardens of the world. (Kondo, K., 1977, Ackerman W. L. 1978, Feathers, D. L. 1978).

The "Cutting Graft" Method of Propagating Camellias

La méthode de "greffe de bouture" des camélias de bouturage

Método de 'injerto de púa' para propagar camelias

Il metodo a "inesto di talea" di propagazione delle camelie

A. E. CAMPBELL

As a commercial undertaking Camellia Grove Nursery endeavours to produce the best possible plants for its customers.

We do, in fact, produce plants that are strong and vigorous and free of pests. These objectives are obtained by a programme of fertilising and spraying. However, there are two diseases which can affect some Camellias in our Sydney climate Sydney climate is similar to that of Shanghai but not so humid in summer. Annual rainfall is about 48" well spread over the year.

The two diseases which affect some Camellias in Sydney are:

1. *Glomerella cingulata* which attacks some *japonicas* and *reticulatas* but almost never *sasanquas*. All our plants are checked for this before sold and, if affected, are destroyed. This disease can attack plants in customers hands.
2. *Phytophthora cinnamomi* which can affect the roots of most *japonicas* but almost never the roots of *sasanquas*. This disease can occur in customers' hands if the plants are over watered or planted in a badly drained position.

So far we have not succeeded in eliminating No. 1 above but it occurred to us that if we could graft all our *japonicas* and *reticulatas* on *sasanqua* stock we could eliminate No. 2 on the Nursery and make it very unlikely to affect plants in customers hands even if over watered.

We have been using four year old plants of *C. hiemalis* 'Kanjiro' as a stock for quickly producing large plants of new varieties of *japonicas* and for all *reticulatas* with great success by the cleft graft method. Over the years it had been noticed that 'Kanjiro' was very compatible with everything we grafted on it, that its root system remained vigorous, unaffected by phytophthora and produced excellent plants. Various other *sasanqua* and *sasanqua* like stocks had been tried but 'Kanjiro' proved to be the best. However this is an expensive way of producing big plants.

It was therefore necessary to discover a method of producing the equivalent of a cutting grown plant on 'Kanjiro' roots as we sell our plants in all sizes from those in 5" pots and approximately 18" high as second year plants and so on to 4th and 5th year plants in large containers.

My partner, Steve Clark, is a very competent plant propagator and he started experiments about 12 years ago and, after a little trial and error, came up with the procedures as detailed.

The operation takes place in December, the recent spring growth being then firm enough to be worked.

Firstly we get a supply of 'Kanjiro' cuttings 5 to 6 inches long. These come in varying thickness, the thicker cuttings being used for those varieties which produce thick scions and the thinner cuttings for the thinner scions. Leave three leaves at the top of the 'Kanjiro' cutting. It does not seem to matter if the base of the cutting is cut square or sloping or at a leaf node or between nodes.

The scion should be prepared as for a cleft graft, i.e. about 3" long with two leaves and a growth bud left at the top. They should, as near as possible, be matched with the cutting for thickness, but as many of the scions will be thicker than the cutting, one side of the scion can be pared down to make a better matching fit.

A long sloping cut should now be made in the cutting about ⅔ of the way from the bottom and the scion inserted as for any normal side graft. The two pieces must now be tied quite firmly together, we use two ties of sticky paper packing tape about ⅛" wide, one at the graft itself and the other higher up to prevent any sideways movement. The cutting graft can now be treated as any normal cutting. It should be inserted into the medium to a depth of about 4" which will cover the graft point and probably the top tie.

It usually takes about four months for the graft to callus and the cutting to make roots. When removed from the cutting bed the top of the original cutting of 'Kanjiro' must be carefully cut off and the struck cutting can now be potted up in the usual way. Some varieties of

japonica will make roots at the base of the scion, these should be removed, the variety noted and 2 ties used at the graft point in future. Check the little plant regularly for the first year as about 5% will grow some suckers from the 'Kanjiro' stock. These should be removed. In our experience no further suckering should occur.

Plants obtained by this method grow just as well, perhaps better, than those on their own roots. After 3-4 years the graft point, usually just at or below ground level, disappears, the paper ties have decayed and disappeared long before. We also note in the case of *reticulata* that there is very little 'bottle necking'.

Though we originally developed this method of producing *japonicas* and *reticulatas* to overcome any phytophthora problems there are additional benefits. The rate of success varies between 95-98% so we need rather less material than we would require under the old method when the percentage of failure was often quite high and also we need rather less space on the cutting bench.

Plants produced this way cost a little more to produce as we need some temporary staff for a few weeks. We engage a couple of girls from the local high school as the young have keen eyes and steady hands. With a well trained team we can produce up to 1500 cutting grafts in a day of 7½-8 hours.

The other essentials are very sharp knives and good lighting. In our experience 'Kanjiro' is compatible with everything we have tried including many species and hybrids except the species *crapnelliana.*

Camellia reticulatas

Extracts from a paper presented by
MILTON H. BROWN
Executive Secretary, American Camellia Society

First, I want to thank our Chinese friends, such scholars as Professor Tang, Professor Yü, Professor Zhang, who are hosting this historic horticultural event. I also wish to thank Madam President Violet Lort-Phillips and Harold Fraser, for asking me to do the almost impossible — presenting a paper on *Camellia reticulata* here in the beautiful home of this flower. It is my hope that international gatherings like this will do much to bring the peoples of the world together which, in turn, will bring the governments together and that we can gain the everlasting peace that passes all human understanding. I am also deeply humbled by a group of such distinguished guests from around the world.

Introduction

In his chapter "The Interrelationships of the Species in Camellia", J. Robert Sealy of the Royal Botanical Gardens in Kew lists twelve sections, one of which is section Camellia. Four species of this section, namely *C. japonica, C. saluenensis, C. pitardii* and *C. reticulata*, are very closely allied.

In his *A Taxonomy of the Genus Camellia*, Chang Hung-ta (Zhang Hongda) more than doubles the number of species in Sealy's book. Nevertheless, Chang also lists *reticulata* as a subsection of the section Camellia under the genera Camellia L. This paper does not propose to go into the technicalities or cytological studies and other highly technical studies of the *C. reticulata*. It proposes to put the *Camellia reticulata* into proper prospective for those of us who are laymen in the field of horticulture.

History

Professor T. T. Yü reported in 1950 "The Early History of the Cultivation of this camellia in China is rather obscure". The *Cha-hua-pu* which is a genealogical record of Chinese camellias written by P. Chao, a literary naturalist of the eleventh century, listed 72 varieties. Unfortunately, the original work was lost, but reference to it was made in a complete list of Chinese literature, which was compiled and published early in the Manchu dynasty. The Chinese name of *C. reticulata* is *Nan-shan-cha* which means camellia of the South Mountain.

It was written earlier that the Yunnanese are so fond of this camellia that they have planted it extensively in gardens and parks, and they also use it as a pot plant in almost every courtyard. There are several very big trees, more than 300 years old, growing in the temple courtyards near Kunming, the capital of Yunnan Province. Since the camellias flower in spring, at the time of the Chinese new year, which is a popular season for making excursions to the countryside, it is natural that the flowers should have become an object of great admiration by the local people. Their love of the flower has resulted in the development and preservation of the superior varieties, and its culture is the favourite amusement of the nobility, the literary, and the rich. Consequently it is the most important plant in the local horticultural trade. The beautiful evergreen foliage with red flowers is regarded by the Chinese as a sign of fortune and wealth, and in olden times several pairs of camellia plants were given as a portion of marriage dowries. During the Chinese new year, a vase of red camellia flowers is one of the offerings every family presented to its ancestors. In the art and literature of Yunnan, this camellia also occupies a prominent place and it has appropriately become the floral emblem of the province.

The *Camellia reticulata* was probably one of the best-kept horticultural secrets of the world for many centuries. It, or probably its hybrids, dates back to the ninth century A.D. and might go back to the T'ang dynasty A.D. 618-906. In the eleventh century P. Chao in **Cha-hua-pua** described many cultivars of the *reticulata* and there are many references to them in subsequent Chinese literature. One of these cultivars that many of us know as 'Lion Head' was imported into Japan between 1673 and 1681. Near where we are meeting today,

you can see a *Camellia reticulata* tree that is said to have been planted during the Ming dynasty some 500 years ago. I have seen photographs of *Camellia reticulata* trees in China said to be a thousand years old.

It is interesting that of all the missionaries and plant explorers who crisscrossed China in the 1700's and 1800's none reported on the beautiful *Camellia reticulatas*. Some must have seen them, else the 'Captain Rawes' *Reticulata* would never have been sent to England. The Shan-cha-hua had won the love and admiration of the Chinese people as early as in the Ming dynasty when it was quoted as "the most beautiful flower on earth".

Colonel Tom Durrant of New Zealand, who along with the late Ralph Peer and Walter Lammerts of the United States and Walter Hazlewood of Australia were the first to obtain Yunnan *reticulatas*, wrote the following in 1959:

"It is, perhaps, a sidelight on Chinese character and attitude to the beautiful, that so much mystery has surrounded the reticulate camellias. We are apt to overlook the fact that China had a very highly developed culture which antedated western civilisation by many centuries and that some of the ancient and learned oriental scholars were not only keen gardeners but, also, highly skilled and patient plant breeders. It must have been some of them who selected, hybridised and raised the many wonderful *reticulata* camellias which are only now becoming known to the world.

"Many famous botanists have visited China to search for plants to transfer to the parks and gardens of the world; their success is indicated by the fact that so many of our most beautiful flowering shrubs and trees are of Chinese origin."

Robert Gimson of Spain wrote an excellent article on the *Camellia reticulata* in 1975. He said —

"During the first quarter of the 19th century many Chinese plants were introduced to England by Mr John Reeves, who was employed by the East India Company. He constructed small portable greenhouses to be carried on board the East India Company's ships, and gave the ships' masters instructions regarding the care of the plants during the voyage, which in the days of sailing ships, took about 4 months round the Cape of Good Hope. It was probably Reeves who gave a camellia in 1820 to Captain Richard Rawes, the captain of an East India Company ship, to take to England. Rawes gave it to his friend Mr Thomas Palmer who planted it in his conservatory at Bromley, Kent, where it flowered for the first time in the spring of 1826. In 1824 Mr John Parks sent to the Horticultural Society of London, now the Royal Horticultural Society, a similar plant, and it is possible that this is the old tree still growing in the temperate house of the Royal Botanic Gardens, Kew, London, where it is now about 7 metres high.

"Reeves retired to England in 1831, and in 1843 he persuaded the Horticultural Society to send Robert Fortune to China to collect plants and seeds. Fortune sent another form of *Camellia reticulata* to England in 1850, and this bore formal double flowers and so was known as *Camellia reticulata* 'Flore Pleno'. In the **Botanical Magazine** of 1 April 1857 there is a colour plate and a description which said 'Unlike other really fine specimens of *reticulata* we have seen, the present one does not form a straggling bush, with leaves and flowers so sparse that the branches may everywhere be seen; but its beautiful and ample foliage, and its still more beautiful, and, for a camellia, almost gigantic flowers (eighteen to twenty inches in circumference!)' constitute this unrivalled plant. In the beginning of October, 1848, the multitude of flower buds was so great that it was necessary for the health of the plant that 2600 should be removed; and assuredly, though it was difficult to count them, nearly an equal amount (say 2000 were allowed to remain; and these were in the perfection of blossom in April 1849! So at least we know that one or more plants of 'Flore Pleno', had been sent to England before Fortune's."

It is difficult to say precisely when the *Camellia reticulata* came into the United States whereas there is documented evidence that the *Camellia japonica* came into the United States in 1797. We do know that in a treatise called "Observations on Camellia and its varieties" by the noted Botanist, M. P. Wilder of Boston, Massachusetts, in 1834, he mentioned the species *C. reticulata* along with 5 others. On January 2, 1836 he exhibited a *Camellia reticulata* plant in a camellia show held by the Massachusetts Horticultural Society in Boston. A year earlier he wrote "*The reticulata*". This is by far the most splendid of the genus that has been introduced." This is a feeling that virtually all amateur and professional botanists and horticulturists have agreed with since that time. It is interesting to note here that this early and popular *reticulata* was 'Captain Rawes', a garden variety. This is the same magnificent species that first flowered in England in 1826 and was featured in the **Botanical Magazine** No. 2784, and in the **Boston Register**, plate 1878.

An interesting observation is that the initial description of a *Camellia reticulata* was of a garden variety and not of the wild form which was not seen in the western world until some seeds of wild specimens were collected by George Forrest, a Scottish plant hunter, in the 1930's.

Now let us move on to the importation of the Yunnan *reticulatas* into the United States through the efforts of Dr. Walter E. Lammerts and the late Mr Ralph Peer. Lammerts read an article by H. H. Hu, a very reputable Chinese botanist, concerning *Camellia reticulata* and related species. In the fall of 1946, Dr Lammerts wrote to many botanists throughout the world including Dr Hu. In answering the letter on April 16, 1947, Dr Hu said, "Yunnan Province is famous for numerous varieties of *reticulata.* These are all obtainable in Kunming, the capital of that Province. I suggest you write to Professor T. T. Yü for more information as he is in charge of the Yunnan Institute at Black Dragon Pool, Kunming, China."

It wasn't until January 15, 1948 that Lammerts received a letter from H. T. Tsai of The Yunnan Botanic Institute in which he described the *Camellia reticulata* and said there were more than 20 varieties. It was in early 1948 that he received word that *reticulatas* were on their way.

He was thrilled when they arrived as two of the plants actually had flowers on them and they were different from anything he had seen.

Independently of Mr Lammerts, the late Mr Ralph Peer had established contact with Professor Tsai and had imported 19 varieties of *C. reticulata.* Most of his died following Air Express shipment and fumigation. Between him and Dr Lammerts, they successfully established 15 varieties. In 1952 complete sets of these 15 original varieties were released to camellia growers in the United States for $1,000.00 per set.

In these early days of obtaining these new Yunnan *reticulata* camellias Walter Hazlewood of Australia and Col. T. Durrant of New Zealand also obtained up to 14 or more varieties.

The new and exciting *Camellia reticulatas* of Yunnan had finally been seen and greatly admired by camellia growers in the western world. Shan-cha-hua had finally become a vital part of the camellia world outside the confines of Yunnan Province, China.

In November 1978 Professor Bartholomew was in touch with Professor Wu Cheng-yih. He mentioned that a recent issue of the Magazine, **Foreign Trade**, indicated the plants of 39 Yunnan camellias were available from the Yunnan Institute of Botany. In January 1979 Professor Wu informed Bartholomew that 40 *C. reticulata* cultivars could be sent. Some of these were those that had been obtained by Lammerts and Peer, but 25 were ones that were previously unknown in the U.S. In August 1979, he received an additional seven. In May 1980, Bartholomew listed 27 new ones both in the Chinese and English translation.

Nomenclature and hybridization

This paper does not in any way wish to address itself to the technical aspects of nomenclature of the 105 varieties of the Yunnan camellias. In 1952, Lammerts listed the 15 Yunnan camellias that he and Feathers had imported according to English name, Chinese name and synonyms. This list was copyrighted at that time.

In May 1980, in an article for the **American Camellia Journal** Mr Bao Chen-chang of the Kunming Institute of Botany listed 105 forms of Shan-cha-hua according to their various forms. This is, to my knowledge, the first time that these 105 had been printed in the western world. In his paper at the 1950 Camellia and Magnolia Conference of the Royal Horticultural Society, Dr Yü listed an index of common names and scientific names for 18 Yunnan garden camellias.

Dr Bruce Bartholomew of the University of California — Berkeley, was able to obtain many additional new varieties of the *Camellia reticulata* from China as a result of his plant exploration expeditions there. In an article by him and Professor T. T. Yü in **The American Camellia Yearbook - 1980** entitled "The Origin and Classification of the Garden Varieties of Camellia *reticulata*" they described and named each of 105 varieties. A few years previous to the larger number that Dr Bartholomew received in 1980, the late Mr Kinhachi Ikeda had received several of the "Newer" *reticulatas* from Yunnan during 1973-1975. Mr Ikeda was forever grateful to Dr Wu Chen-y and the staff at the Yunnan Botanic Institute for providing him information and scions with which to do his propagation.

Hybridization

It seems strange to me that despite its vast beauty 'Captain Rawes' was not used early on for serious hybridizing attempts. I know that some people said that it was sterile or that you could not make intrageneric crosses. Actually, it was not until the arrival of the *reticulatas* in the United States and New Zealand and Australia in the late 1940's and early 1950's

that the hybridizers began serious work. Again, this is not a technical, scientific treatise and, therefore, I will make no efforts to describe the problems involved in the intrageneric crosses.

Probably the first-known hybrid with *reticulata* was the camellia 'Salutation' which bloomed in England prior to 1932 and which was said to be a hybrid between *C. saluenensis* × *C. reticulata.* While this has been questioned, the weight of evidence would suggest that it was, indeed, such a cross.

Actually, there are many who still argue that almost all of the Yunnan **reticulatas** are, indeed, hybrids of one sort or another. To my knowledge there have not been sufficient cytological studies of all the various *reticulatas*. This is something that we hope will be done over the coming years to settle once and for all whether the wild form collected by Forrest is the true *reticulata* and all others are hybrids. I just toss this out for what it is worth.

The eminent camellia hybridizer and expert, David L. Feathers of California, reported succinctly the history of hybridising with the *reticulata* in America in 1974. I think it best to quote his remarks, "In hybridisation, it was for some time thought that *reticulata* could not be crossed with *japonica* due to the great difference in chromosome composition (the count being 90 and 30 respectively). Experimentation has proved that this is no bar and as early as 1960 the first *japonica* × *reticulata* hybrid was offered in America commercially under the name 'Royal Robe'. A single white seedling from a cross of 'Waterloo' × 'Debutante' was the seed parent and 'Crimson Robe' the pollen parent of this hybrid.

"Subsequent work on the hybridisation of *C. reticulata* has demonstrated that it is possible to cross this elegant species with many others. Howard Asper of Escondido, California, has had notable success using *reticulata* with *japonica* and *sasanqua* (examples 'Howard Asper', 'Valentine Day', 'Dream Girl' and others) and many other camellia hybridists have crossed *reticulata* with these and a number of species other than the better known ones. A very interesting documentation on the results of hybridising *C. reticulata* with a number of other species is set forth by Dr William Ackerman in his "genetic and cytological studies with camellia and related genera" (Technical Bulletin No. 1427 of the U.S. Department of Agriculture).

"It is particularly interesting to note that the successful plant production reported was three times as great when *reticulata* was pollinated by *japonica* as when *japonica* was pollinated by *reticulata.* The same indication is shown when crosses of *reticulata* and *pitardii* are examined — there were twice as many successes when *reticulata* was used as the female parent.

"The foregoing is merely a brief sketch of the history of the *reticulata* and what has been done with it in a comparatively short period of time, and this report is in no sense an attempt to be all-inclusive. Although authorities seem to be in general agreement that the glamorous varieties that were first obtained in quantity only about 25 years ago are hybrids, which records indicate have actually been grown in China for a thousand years, we can only guess whether they originated in the wild or were actually developed by the Buddhist monks. The prevalent opinion today that they are actually hybrids, however produced, seems to be confirmed by the fact that very similar flowers are appearing here from open-pollinated seed of the so-called wild form, an unimposing single first introduced into England in 1935."

Most of the hybridising with *reticulata* in America has been done with *Camellia japonica* in an effort to obtain the beautiful blooms of *reticulata* on the more attractive bushier plants of the *japonica.* Mr J. Howard Asper, then director of Descanso Gardens, and others in California, also are interested in working with some of their newer crosses with *C. lutchuensis* in the effort to obtain some fragrance as well.

The Future

The small number of original hybridisers working with *Camellia reticulata* has continued to grow and many capable ones are currently working with *reticulata* as a parent in an active hybridising programme. Indeed, there were probably as many *reticulata* hybrids registered with the American Camellia Society in the last two years as there were *japonicas*. Many will also be using the pollen of *C. chrysantha* at such time as it becomes available to them. Thomas Perkins III, will give you more details on what these hybridisers are thinking of in their programmes for coming years. He will also show you coloured slides of varieties of *reticulata* hybrids, which we have brought from America for the International Garden of Friendship in Kunming. While not germaine to this paper but because of the wide interest in the yellow *C. chrysantha*, I do wish to point out that the American Camellia Society now has some pollen at hand from a friend in Japan to carry out its programme of hybridising *C. chrysantha* and *C. japonica.* I have taken this

position because in our country the area where *reticulatas* can be grown, except in greenhouses, is extremely limited.

Conclusion

In closing, I would like to quote two short poems, one written in the middle of the Ming dynasty and the other at the end of the Ming dynasty.

Yang Shen wrote:

"With green foliage and red flowers, its blossoms against the snow;
The yellow bees and powdered butterflies did not come,
The pearl trees by the sea have lost their brightness,
They are ashamed to light the jade terrace with their coral branches."

Pu Ho at the end of the Ming dynasty wrote:

"Fighting for the spring the cold beauty is so splendid
According to the record camellia is best in Yunnan
At the top of the tree ten thousand flowers are spitting out fire,
Reflected against the lingering snow, they make half the sky burning red."

Finally, being in Kunming once again I would like to use a sentence from a poem by playwright Tien Hen, writing about a bird's paradise in Xinhui but I say it about Kunming.

"Paradise does exist in the world of man."

Camellias in China

Les camélias en Chine

Camelias en la China

Le camelie in Cina

T. J. SAVIGE • See colour section
Wirlinga, N.S.W., Australia

In March 1984 forty members of the International Camellia Society journeyed through Yunnan, Sichuan, across to Xian, back to Chungking, down the Yangtse to Nanjing and Shanghai. Wherever possible, visits were made to Botanic Gardens and private gardens in search of Camellias.

At Kunming, the first town visited, a convention was held with members of the Sinica Academia at the Kunming Botanical Institute, after which Camellias were planted in an International Friendship Garden. Due to a very severe winter and cold spring, very few camellias were in bloom. However there were enough to give colour to the Institute's garden of *reticulatas* In these gardens were growing some Camelli: species of interest in *Camellia grijsii, C. forrestii, C. saluenensis* and *C. pitardii.*

Unfortunately the propagating and experimental areas of the Institute were not open to inspection by the delegates so that it was not possible to see *C. chrysantha* and its hybrids developed at the Institute. However a plant of *C. gigantocarpa* was brought to the convention. This had recently been equated with the Hongkong species *C. crapnelliana** by the Chinese taxonomist and botanist, Dr Zhang Hongda. The only *C. japonica* seen in flower in the Gardens was 'Alba Plena', known in Kunming as 'Yupei'. (Jade Cup).

A few days later about half of the group of delegates drove by bus to Dali. On the way some areas of *C. saluenensis* scrub was seen by the roadside. A large Camellia garden by Lake Dali produced a number of *C. reticulata* in bloom, including 'Liujiao Hentiangao' or Hexagonal Dwarf Rose, a beautiful deep pink formal. A *C. japonica* with the name 'Meizicha' or 'Rose Camellia' was the only one out. According to Yu's list of 1958 this is probably the same as 'Meiguicha' or 'Rugosa Rose'.

On return to Kunming, the group then travelled by train to Emei near Chengdu in the Sichuan Province. The train line between Kunming and Chengdu is about 1000 kilometres long and passes through many hundreds of tunnels and over many hundreds of bridges through very scenic mountain terrain.

At Emei the party split in two, one climbing the lower slopes of Emeishan to the 'Myriad Years Monastery' where a planting of camellias was made where they stayed overnight, while the second group visited local areas of interest including the 'Crouching Tiger Monastry', where an extensive planting of Camellias was found to include 'Alba Plena', 'Baozhu Cha' ('Precious Pearl Camellia'), a large red paeony Camellia and 'Meirenhong' (Beauties Red).

The party, again complete, moved on to Chengdu where a visit was made to the Zoological Gardens to see the Pandas, particularly a cute three months old baby, and then to the brand new Chengdu Botanical Gardens of which Dr Kung Dashing is the Director. More Camellias were planted here in what was to be a sizeable Camellia garden, which already held a collection of plants supplied by the Kunming Botanical Institute. It was with some surprise that stock survival shoots on some of these were identified as *C. forrestii.* Apparently seedlings of this species make satisfactory grafting stock.

Cultivars of *C. japonica* seen in Chengdu included 'Zhaohongyang' (Shining Red), 'Qixinghong' (Seven Hearts Red) and 'Zhuiyangfei' a previously unknown variety.

The party then flew to Xian to see the excavation of the terracotta army of Emperor Qinshi Huang and then back to Chungking, the old terminus of the aerial supply route from Burma "over the hump" during the war and a base for General Chenault's 'Flying Tigers'. In this area Camellias were common. Our hotel had beds of them and many others were seen in the parks and gardens visited. These included 'Daqiu' (Large Ball) and 'Dongyang', both unrecorded varieties: 'Simianjing' (Alround View) a pink formal; 'Baiwubao' (White Jewel); 'Qixiangqiu' (Seven Star Ball); 'Baibingzi' (White Cake) and 'Zinbingzi' (Purple Cake).*

A visit to the Hot Spring Park on the Jiling River, a tributary of the Yangtse, revealed

many more Camellias. A particularly beautiful, soft pink, paeony with a halo edging of white was named 'Fengxian' (Fairy Wind); there was also a soft, pearl pink, formal thought to be 'Baimainzhu'* and a red striped, soft pink, formal double called 'Hua Chang'e Cai' (Variegated Moon Goddess Splendour*) as well as 'Fenshiba Xueshi' (Pink Eighteen Scholars), 'Alba Plena' and 'Otome'.

The party then travelled three days by boat down the Yangtse River, through the three river gorges and the Ship Lock in the Great Yangtse dam, to Wuhan with its parks and pavilion around East Lake with its large water area. In the Hubei Municipal Museum is the exhibition of the Chime Bells from the Zenghouyi Tomb of the Warring States Period (about 433 B.C.) unearthed in 1978. This chime of about 70 bronze bells is well preserved and can play both Western and Chinese music of wide sound range.

From here a plane ride down to Shanghai and a visit was made to the Botanic Gardens which are under the able directorship of Dr Wang Dajun. This botanic garden contains the largest collection of dwarfed trees in China. Known as "Penjing" their history dates back to the Tang Dynasty, 1200 years ago and probably predates the Japanese Bonzai. Some are hundreds of years old.

The gardens are relatively modern; started in 1974 on the site of the former Longhua Nursery, they now cover 67 hectares. One of their objects is to introduce garden plants from abroad and they have reciprocal arrangements with overseas botanical and horticultural organisations for the exchange of plant material. As the old Longhua Nursery included Camellias amongst its plants the Shanghai Botanic Gardens have what is probably the largest collection of *Camellia japonica* cultivars in China. They number in the region of 100 and include some of the ancient varieties imported into England early last century by Clipper Ships.

Amongst these were 'Incarnata' under the Chinese name of 'Liujiaobai' or 'Hexagonal White'; 'Alba Plena' under the name 'Baiyang Cha' or 'White Foreign Camellia' and 'Pomponia' as 'Sanxueshi' or 'Three Scholars'. This last camellia bore on it the sport 'Paeoniflora' or 'Hongsan Xueshi'. The Chinese name is probably an allusion to the three sports that can occur on this camellia' the white 'Paeoniflora Alba' (Baisan Xueshi); the soft pink 'Paeoniflora Pallida' (Fensan Xueshi) and the deep pink 'Paeoniflora' (Hongsan Xueshi).

Many of the camellias were in glasshouses and were in flower and included some quite beautiful varieties. Amongst them was the old 'Hedinghong' (Stork Crest Red) a red anemone type; 'Yangzhilian' (Rouge Lotus), a red semi-double; 'Jixianghong', (Lucky Red), a red paeony form; 'Zhenpei' (Genuine White) a rose form, double white; 'Fenfurong' (Pink Hibiscus), a pink semi-double; 'Hongmudan' (Red Paeony), 'Zhuapolian' (Scratched Face) a white, rose-form double with a thin red line on some petals; 'Huabingling' (Variegated Betel Nut) a red, white variegated formal and 'Hongfurong' (Red Hibiscus) a large red semi-double. There were also many others that time did not permit the opportunity of identification.

From Shanghai the party journeyed back up the Yangtse to Nanjing by train. One of China's four ancient capitals, it was here that the famous Ming Dynasty originated in 1368 A.D., before the third Emperor moved the capital to Beijing. Nanjing is also the site of the mausoleum of Dr. Sun Yat Sen and the Purple Mountain Observatory with its fantastic collection of ancient cast bronze astronomical instruments as well as its modern telescopes and other equipment for astronomical observation.

Well managed parks and gardens in the city included many varieties of Camellias which also were used to decorate the railway station.

The city of Wuxi was the next visited. It is situated on the ancient Grand Canal and its interlacing waterways make it somewhat of a Venice. Situated on Lake Taihu it has many beautiful parks and gardens with names like Ecstasy Garden, The Second Spring Under Heaven, Tortoise Head Garden and Spring Rains Garden. Again many varieties of *Camellia japonica* were obvious, in particular 'Alba Plena'. 'Otome' and 'Tarokaja'. It was an experience to travel on the Grand Canal in a Dragon boat and observe the teeming canalside life and the amazing melange of floating craft used for water transport.

From Wuxi to the historic city of Suzhou, we made our way by boat across Lake Taihu and up an extension of the Grand Canal. Suzhou is famous for its gardens. The Humble Administrator's Garden; the Master of Fishernet's Garden and the Lion Grove Garden have been restored in the unique Suzhou style of garden with terraces, winding corridors and waterside pavilions, laid out with ponds, grottoes, gazeboes and rockeries. They bear witness to the characteristics of the Chinese landscape architecture of the Sung, Ming and Qing Dynasties and include many pines, maples, magnolias and camellias in their plantings.

There is an old Chinese saying: "Above there is heaven; below there is Suzhou and Hangzhou" so the next stop was Hangzhou. Used during the days of the foreign concessions at Shanghai as a resort by the Westerners, there is some European influence in the extensive parks and gardens around the beautiful Western Lake which is such a feature of the city. On an island, called Solitary Hill, in this lake, which has pavilions, terraces and gardens, there are some plantings of camellia species and a few large specimens of *C. japonica*. The species included *C. chekiangoleosa* in flower. With its large flower and interesting stamen cluster it would appear to be a useful species for hybridization.

The Hangzhou Botanic Gardens, which were first opened to the Public in 1965 now cover an area of 260 hectares and include, amongst their 3500 taxa, special collections of Acer, Camellia, Cinnamomum, Magnolia, Osmanthus, Rhododendron and Rosa. The Camellia collection is quite extensive and included the species *Camellia japonica, C. sasanqua, C. reticulata, C. semiserrata, C. polyodonta, C. chekiangoleosa, C. hiemalis, C. fraterna* and others. The planting of *C. japonica* cultivars seems quite comprehensive but, as very few were in flower, the only ones identified were the ubiquitous 'Alba Plena' and 'Otome'.

The distribution of the horticultural cultivars of the Genus *Camellia* in China followed what probably was the natural distribution of the species. Cultivars of *C. reticulata* predominated in the Yunnan Province while in the Sichuan Province the horticultural varieties were substantially those of *C. japonica* but of limited kinds. Travelling down the Yangtse the number of varieties increased so that the largest number appeared to be around Shanghai. While this is not a particularly large number compared with those grown in the Western World, there are some very good cultivars amongst them that have not reached the outside.

It is interesting to speculate that the thirty or so varieties brought to Europe 150 or more years ago from China are the progenitors of many thousands of the modern *Camellia japonica* now grown around the world.

The Camellias sent from Europe to China

Expédition en Chine de camélias européens

Las camelias enviadas de Europa a la China

Le camelie inviate in Cina dall'Europa

H. J. TOOBY
Vice President

As a Vice-President of the International Camellia Society I am greatly honoured to take part in the planting of the Friendship Garden in Kunming. I sincerely hope that this will prove to be a contribution, however small, in helping to increase friendship and mutual understanding between the peoples of China and those of Western Europe.

I refer briefly to the origin of the camellias sent from Western Europe, most of which descend directly from plants sent from China. They are among the most popular and widely grown and I hope they will be equally successful at Kunming and on Mount Emei.

'Eximea' and 'Elegans' are two of the outstanding introductions of Chandler and Buckingham of Vauxhall, London. They used 'Anemoniflora' ('Po Chu Cha') freely as a seed parent from about 1819. 'Eximea' (1826) has medium-sized flowers of dark blood-red which fall from the plant while still in good condition. It may not be very impressive as a young plant but an old tree can be spectacular. 'Elegans' (1831) with large pink anemone-form flowers is a wonderful plant, fairly hardy but not really suited to the coldest districts.

Hybridisers in Belgium and Italy then took the lead. One of the most successful Belgian raisers was Mathot of Ghent. In 1858, not long before he died, he produced 'Mathotiana Alba', a large white formal double of vigorous growth, equally as beautiful as the Chinese 'Alba Plena' ('Pak Cha') but with a higher centre to the flower. Like 'Elegans' this maintains its popularity but is similarly unsuited to cold situations. Two years later Maggi in Italy introduced 'Lavinia Maggi', sometimes called 'Contessa Lavinia Maggi', a spreading grower with medium-sized formal double pale pink flowers with bold streaks of deep pink. This cultivar

maintains its popularity as the most popular striped cultivar in Europe.

French nurseries then played their part; the most popular and arguably the best cultivar of *C. japonica* with us is 'Adolphe Audusson', which produces many large semi-double red flowers on a vigorous upright bush which does well almost everywhere. This was introduced by Audusson of Angers in 1877. In 1895 Guichard of Nantes, whose famous nursery is now run by I.C.S. Director Claude Thoby, produced 'Gloire de Nantes' a tough semi-double pink and very early flowering. A few years later a sport arose on a plant of 'Mathotiana Alba' with flowers of a lovely soft pink. This was introduced in 1908 by Bahuaud-Litou, also of Nantes as 'Souvenir de Bahuaud-Litou'. In its turn this sometimes sports to a deep salmon-pink — 'Mathotiana Rosea'. About 30 years later a batch of plants from the same nursery, by then run by Cormerais-Bahuaud, was bought by Victor de Bisschop of Ghent in Belgium. He found an excellent, hardy, semi-double white as a sport on one of these plants and named it for his wife, 'Madame Victor de Bisschop'. This nursery is now run by his son, Roger de Bisschop, whose wife is I.C.S. Director for other regions. About the same time de Rothschild of Exbury near Southampton in England raised a very free-flowering single white which was named 'Charlotte De Rothschild'.

Meanwhile George Forrest made a number of visits to Yunnan between 1905 and 1932 to collect wild plants; he appears not to have been very interested in camellias but he sent back seed of several species including *C. reticulata* (1913-14 and 1924-25) and *C. saluenensis* (1917-19 and 1924-25), *C. taliensis* and *C. tsaii.* Initially the first two presented some difficulty to the botanists and the situation was not helped when it was found that a batch of plants, said to have been raised from Forrest's seed showed clear signs of being hybrids with *C. japonica.* Incidentally Forrest noticed plants of *C. japonica* growing semi-wild in thickets in southern Yunnan. *C. reticulata* and *C. saluenensis* were soon recognised as good garden plants though rather tender. J. C. Williams of Caerhays near St. Austell in Cornwall found that *C. saluenensis* set seed freely and started hybridising. His success was soon followed by others and his first introduction 'J. C. Williams', a very free-flowering pale pink single introduced in 1940 was only a year in front of Clarke's 'Donation', a fine semi-double pink and again very free. These came to be known as *C.* × *williamsii* hybrids and are not only much hardier than *C. saluenensis*, the flowers are much more resistant to frost and wind than similar coloured *C. japonica* cultivars. 'Donation' is deservedly the most popular camellia in Britain today. Charles Williams followed at Caerhays with two more in 1950 and 1951. 'Cornish Snow' (*C. saluenensis* × *C. cuspidata*) is extremely free with small white single flowers while 'Charles Michael' is a "*williamsii*" with pale pink single flowers. Then in 1954 Francis Hanger introduced 'Inspiration' (*C. reticulata* × *C. saluenensis*) a hardy plant with a narrow upright habit and semi-double flowers of bright rose-pink; and in 1958 Mrs Messel introduced 'Leonard Messel' named for her husband (*C. reticulata* × "C. × *williamsii*" 'Mary Christian') with large flowers of light salmon pink, another hardy plant though the larger flowers are more prone to wind-damage. Also in 1958 Williams produced 'George Blandford' (*C. saluenensis* × *C. japonica* 'Lady Clare') similar in colour to 'Inspiration' but with some anemone- to paeony-form flowers on a spreading bush. 'Mary Larcom' and 'Rosemary Williams', two deep pink singles followed from Williams in 1961; both are considered to be better than the earlier and still popular 'Mary Christian' and 'St. Ewe'. A year or two later Gillian Carlyon of Tregrehan near St. Austell started hybridising and two of her plants introduced in 1972 are gaining wide acceptance; these are 'Cornish Spring' (*C. japonica* × *C. cuspidata*) very free with small pink flowers and 'E. T. R. Carlyon', named for her father ('J. C. Williams' × 'Adolphe Audusson) a splendid late-flowering semi-double white.

The I.C.S. Congress will be held at the Old Ship Hotel, Brighton, East Sussex, England from 9th to 14th May, 1985
Delegates will gather at the OLD SHIP HOTEL, BRIGHTON on the afternoon of THURSDAY 9th MAY. 1985. for Registration, and on the evening of that day His Worship the Mayor of Brighton will hold a Reception for them.
FRIDAY 10th MAY Visit Leonardslee in the morning, taking a packed lunch, and in the afternoon Heaselands. After dinner, Mr Archie Skinner of The National Trust Gardens, Sheffield Park, will show slides about Sheffield Park.
SATURDAY 11th MAY The morning will be given over to Lectures, with simultaneous translation, and in the afternoon the delegates will visit Sheffield Park, to be guided round by Mr Skinner. In the evening there will be a "Baron of Beef" dinner at the Hotel, after which there will be a Slide Show.
SUNDAY 12th MAY The morning will be devoted to Lectures, and in the afternoon there will be a choice of Garden Visits. After dinner at the Hotel there will be a Slide Show and Lecture.
MONDAY 13th MAY Visits to the Savill and Valley Gardens. In the evening there will be a Banquet at The Old Ship Hotel.
TUESDAY 14th MAY The Conference will disband, and those delegates who have booked for the Tour which has been organised will commence.

The cost of the Conference, including all accommodation, meals, garden visits and gratuities, will be £335 per person — twin-bedded rooms. There will be an additional supplement of £50 for a single room.

(All members of the Royal Horticultural Society and National Trust are asked to bring their cards with them). BOOKING FORMS are available from Miss C. E. Perring, 47 Havelock Road, East Sussex, England.

Reticulata in America 1984

Les reticulatas en Amérique, 1984

Camellia reticulata en América, 1984

La *Reticulata* in America, 1984

THOMAS PERKINS III

I have been given the task of summarizing the influence of the *C. reticulata* in America. Rather than call it a summary, let me label this effort as a report on the current status of hybridizing of the *reticulata* by the most active people in the U.S., and their outlook, aspirations and needs as of today. I must point out that there is very little institutional effort on the *reticulata* at this time. I have called on the most active people and have received short papers and slides from Ken Hallstone of Lafayette, California, Dave Feathers of Lafayette, California; Frank Pursel of Oakland, California; Meyer Piet of Arcaida, California; I will present excerpts from their papers first, the first report is from **Ken Hallstone:**

The *reticulata* in the Fragrance Program in America

Early hybridizers of the fifties and sixties were looking for and crossing fragrant *japonica* cultivars. With the advent of the alluring fragrance of *C. lutchuenensis*, a species introduced from Okinawa in the early sixties, hybridizers turned to interspecific crosses using *lutchuenensis* and the several other not so fragrant species.

The first use of the species *reticulata* in a fragrant hybridization using *C. lutchuenensis* was made here in America by Frank Pursel in 1969. His cross of the *reticulata* 'Crimson Robe' with *C. lutchuensis* bloomed in 1974, but it showed only a very slight transfer of the *lutchuensis* fragrance. Since that time the *reticulata* and its hybrids have been used more and more and gradually good show flowers, with a reasonable amount of desirable fragrance are beginning to appear on the scene. Dave Feathers has developed three such flowers; two unnamed seedlings and one he has named after his friend, the late 'Harry Bloom'. I have two fragrant *reticulata* seedlings and undoubtedly there are others. (See colour section, 'Feathers Darling' ('Buddha' × 'Fraterna' × 'Saleb').

Thanks must go to the Chinese people for sharing with the camellia-loving people of America, their beautiful *reticulata* and the enchanting yellow *Camellia chrysantha*. The hybridizers are drooling with anticipation of producing the first fragrant peach, apricot, orange or yellow show flower.

My aspiration is to secure pollen or scions of *C. chrysantha, C. euphlebia*, and the fragrant *C. yuhsienensis*, and the *reticulata* cultivar 'Hexangular Dwarf Rose' for use in my game plan of hybridizing for fragrance and also new colors.

Dave Feathers comes up with the following paper:

Accomplishments to date in the field of camellia hybridization would seem to establish that the most desirable results obtained have been from combinations of the species *C. reticulata*, with both *C. japonica* and *C. saluenensis*. In this evaluation, personal preference is bound to exert considerable influence, but, when considered from the standpoint of both flower and foliage improvement as well as current popularity, this appraisal would appear to be justified. Yet one cannot speak too broadly on the subject, for success with camellias is so dependent upon performance under a wide range of climatic conditions. Until we have developed really cold-tolerant camellias, therefore, our work is still incomplete and must be continued. The recent availability of the yellow camellia from China, with its interesting colour potentialities further emphasize this point, while the possibilities with fragrance care only recently becoming evident.

It is the purpose of this paper to present some interesting examples of hybrids arising largely from crosses of *C. japonica* with *C. reticulata* because of the fact that, as of the year 1980, there were only some 14 named varieties of this cross listed, whereas, almost 200 of the reciprocal cross (*C. reticulata* × *C. japonica*) had been named. In the hybridization efforts with these two species, this appears to be the more difficult cross. Why, I really do not know. However, I took that approach

because throughout I have been motivated by the desire to produce better plants and foliage in preference to concentrating on the flower. It is generally believed that it does not make any difference which way the interspecific cross is made; however, I just had the feeling that the mother plant might exert the greater influence on the offspring and there appears to be valid reasons why this is so, insofar as the camellia is concerned.

Another reason for using *C. japonica* as the seed parent was because of its much greater efficiency as a seed producer. On 5-foot plants of *C. japonica* 'Lady Vansittart', and *C. japonica* 'Rosary', I had counted as many as 200 seed pods in a normal year. These plants, as well as single-flowered seedling from a cross of 'Waterloo' × 'Debutante' were selected because they were also extremely bushy. I also used 'Lady Clare' for its similar habit and good foliage, while Jack Osegueda used 'Adolphe Audusson' as the seed parent, with *C. reticulata* 'Crimson Robe' to produce the very outstanding hybrid 'Harold L. Paige'. (See colour section, 'Satan's Satin' × 'Crimson Robe'). There are interesting discussions of the pros and cons of seed parents in our book 'The Camellia' for further viewpoints on this matter.

Where hybrids have *C. japonica* as the female parent, some of them bear seeds but almost as many appear to be sterile. In general, the plant habit is much improved.

My plant of *chrysantha* failed to bloom this season and — at age 84 — I would dearly love to secure pollen of the yellow cultivars as I have hybrids on which I would want to use it.

Frank Pursel, our most active worker with *reticulatas*, has the following paper to present his game plan:

Hybridizing With Reticulatas
FRANK PURSEL

When a person crosses *reticulatas* with *reticulata* ('Crimson Robe' × 'Cornelian'), the seedling flowers are inferior to either one of the parents. If you go one step further and use the seedling flower pollen back on to one of the parents, the offspring are even more inferior than the flowers made by the original cross. Many of the plants are so weak they become very susceptible to disease (root rot and dieback). It is this person's opinion that the chance of obtaining worthwhile flowers is not good.

Crossing *reticulata* with *japonica* one gets the best out of both parents. Be sure and use the *reticulata* as the seed parent when making these pollinations. When one uses the *japonica* as the seed parent, the flower form changes very little. Most of the seedling flowers look like the *japonica* flower. If a hybridizer wants a large flower, use a *japonica* that has large flowers ('Coronation', 'Drama Girl', 'Mrs. D. W. Davis'). Most of these very large *japonica* flowers have a chromosome count of 45. Using a *japonica* with a very small flower ('Tinsie', 'Kuro-Tsubaki'), the flowers, as a rule, will be twice larger than the *japonica*, but still smaller than the *reticulata.*

The pollen from the *reticulata japonica* seedlings seem to get the best results when the pollen is used on the *reticulatas.* (See colour section 'Santa Clara').

As for my aspirations at this time, I must state that I am awaiting pollen from the yellow cultivars with a multitude of crosses planned. My plants of *chrysantha* dropped their buds, so I am left at the starting gate.

Meyer Piet offers a very detailed report on his work:

Hybridizing
MEYER PIET and LEE GAETA

The entire hobby of hybridizing by Lee Gaeta and myself is a two man effort that is done in our spare time. It does require more time than most people think. Lee and I unusually work at **least** one day a week the year round on our Camellia hybridizing program. We have been at "it" for about 15 years.

New flowers that **add** to the enjoyment of Camellias are very hard to come by. It is easy to obtain seed and eventually see flowers similar to the original Yunnan *reticulatas*, but it takes a great deal of effort to obtain a different flower, perhaps a formal, or paeony shape with exciting vivid colours.

We process about 400 new known crosses a year. We use a method of "selective breeding" which means, use the best parent plants possible if you expect to see good offspring. All of our 400 seedlings are usually grafted about four months after they are picked. From the time we make the cross we figure by speeding things up it still takes an average of three years to see a new seedling bloom.

If we know that the seedling (of a known cross) needs backcrossing for perhaps more vivid red or higher bloom, we will keep the seedling and do additional work with it. This will take an additional three or four years. Of

the 400 seedlings, only about twenty survive the first blooming. This number eventually ends up as three or four plants.

It is not unusual today to have four or five known plants. We have excellent flowers that have two parents *sasanqua reticulata* and one parent *japonica*. By selective breeding you do tend to obtain the more complex flower forms.

What are some of the good crosses or working material? Two of the best original Yunnan *retics* are 'Crimson Robe' for the dark rich red colours and 'Cornelian' for form and much larger, rabbit-eared flower.

Much to my surprise I have obtained excellent very large, full flowers from 'Willow Wand'. The seedling to be named after Yoshiaki Andoh is a cross of the two; a cross of two parts *retic* and one part *japonica*. Subsequently, it has excellent foliage. It is a very bushy plant, one bud to each branch terminal, never debudding, or any other attention, but still produces its very vivid six inch higo-type flowers. When you see eight or ten flowers in bloom at the same time you will understand what constitutes a new worthwhile plant.

When you cross the *saluenensis* into the *retics*, with perhaps one part *japonica* you obtain excellent full flowers with unusual pastel colors that are beautiful. Our *saluenensis* × 'Ruby' (*japonica* × *retic* 'Crimson Robe') cross is the best example of this. Our white *retic* is a cross of a white *saluenensis* and *retic* 'Crimson Robe'. Evidently the white in the *saluenensis* flower, which was about 2½" in diameter and of simple form, completely dominated the color of *retic* 'Crimson Robe'. We ended up with a six inch wide white flower with a touch of pink in the back petals. There are two different crosses, therefore, we have crossed them into each other and expect to see some flowers in another year or so.

We have crosses that have two parts fragrant *jap.* and one part *retic.* (for size), but as soon as the *retic* enters we lose the fragrance. This season we finally have set seed for fragrance using four different *jap.* plus one part *retic.*

Contrary to most belief and written data, we do not use many seeders. I believe this is one of the basic mistakes that most people make. Use the more complex forms even though they are harder to seed, as they will usually set seed, and when they do the seeds will be worthy.

To summarize at this point, most of our work is done with five species: *japonica, sasanqua, saluenensis, reticulata* and *granthamiana.* (See colour section 'Spirit of Troy' ('Narumi-Gata' × 'Crimson Robe').

Any help you may extend we would greatly appreciate, and of course would gladly exchange new materials with you.

Camellias in Hong Kong

Les camélias à Hong Kong

Camelias en Hong Kong

Le camelie a Hong Kong

THOMAS J. SAVIGE
Wirlinga, N.S.W.

Hong Kong lies on the S.E. Coast of China at about 23° latitude. The area consists of a small part of the Chinese mainland and about 200 small offshore islands, making up a total area of 1,052 square kilometres. The terrain is rugged and mostly covered by hills up to 900 metres high.

Although the population is close to 5,000,000 the rough topography has ensured the survival, in its natural state, of a relatively large area of countryside. However, regular burning of the brush on the hillsides during the dry period has confined the native flora largely to the protected gullies and ravines.

There is considerable seasonal weather variation due to the winter monsoons from the north, September to March, and the summer monsoons from the south, April to September. Mean daily temperature is from 15°C in February to 28°C in July. The mean annual rainfall is about 2,170mm, falling mostly from the end of March to November.

Although small in area, Hong Kong has a most diverse flora containing numerous species. Over 1900 species and varieties of native plants have been recorded, and about 530 introduced species.

In order to check on species of camellias and related genera, a visit by a group of I.C.S. members was made to the Hong Kong