# THE Camellia Review

Rare SPECIES and HYBRIDS

Camellia *(reticulata* x *saluenensis)* 'Inamorata'
*Courtesy Royal Horticultural Society*

A Publication of the Southern California Camellia Society

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# Southern California Camellia Society Inc.

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

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

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**VOL. 17** **JULY, 1956** **NO. 8**

# 'GUILIO NUCCIO' WINS AWARD

The Hertrich Awards Committee announces that the seedling 'Guilio Nuccio' which was developed by Nuccio's Nurseries is this year's winner of the Margarete Hertrich Award.

This seedling is described as a large, irregular semi-double, 5 to 6 inches in diameter with 3 to 6 rabbit ears. The height of the blossoms is 4 to 4½ inches. It is similar in form to the reticulata blossoms. Color is coral rose, which lightens toward the edge of the petals.

*C. japonica* **'Guilio Nuccio'**

The blooming season is from early to mid-season; first blossoms appear in November.

Plant growth is vigorous and upright with large foliage. The leaves are occasionally fishtail shaped.

One parent of the seedling is *C. japonica* 'Kingyo-Tsubaki' (Fishtail) and the other is not known.

# Camellias of the Future

*By* RALPH PEER

Bringing together two forms of life—people and Camellias—has brought forth our garden varieties now constituting the Camellia world. It is interesting to note that most of these varieies are from *C. japonica* and this, it seems to me, must have resulted from the well-established fact that this species has, since the dawn of history, been growing in a wild state both in Eastern China and in Japan. In China especially (Province of Fukien) there has been for more than two thousand years a well developed form of civilization giving attention to various arts and particularly to horticulture. There is evidence to indicate that many of the garden varieties of *japonica* developed in Fukien made their way to Japan as a part of the baggage of Buddhist Monks.

For many hundreds of years, Japan also has been a horticultural paradise and hundreds of garden varieties of *japonica* have been developed during the centuries of civilization.

In the Asiatic countries which have been backward in a cultural sense, horticulture has not progressed and, consequently, we do not find evidence of the development of garden varieties of camellia species as was the case in Eastern China and in Japan. The "rare" species are designated in this manner because they grow wild in far distant, undeveloped sections of the world where horticulture is largely not known. My personal theory is that nearly all of the rare species will, if given a chance in our gardens, eventually produce the mutations which lead to an endless number of varieties.

When, in 1954, I was able to visit the mountains of Western Japan to inspect *C. rusticana* blossoming in the snow, I also inspected many farm gardens in that area and was amazed to find 14 or 15 garden varieties of *rusticana* growing in this one valley. Presumably, these mutations had been noted amongst the wild camellias and had been moved into the gardens, but I could obtain no positive evidence as to the actual method of transition. Almost certainly, however, if large quantities of seeds were gathered from these garden varieties, the resultant plants would themselves contain other variations—new garden varieties would occur just as is the case with *japonica* and *sasanqua.*

The purpose of this article is to call attention to the vast possibilities along this line. The flowers of practically all camellia plants are attractive. A large field filled with flowering plants of *saluenensis, pitardii* or other species would be quite beautiful aside from its experimental values. Obtaining a supply of seeds for such special investigations will be a long and arduous task.

About 30 years ago, an Englishman, Mr. J. C. Williams, discovered that *C. saluenensis* crosses readily with other species. At this time, he did not have much to work with, but nevertheless created the class of camellia hybrids known as *'williamsii,' japonica* x *saluenensis.* He also developed 'Cornish Snow,' a combination of *C. cuspidata* with *C. saluenensis.*

We have available now *C. pitardii,* a species which probably can be crossed successfully with *reticulata* and *oleifera.* Seemingly, there are unlimited possibilities for the camellia world.

We are indeed much more fortunate than our friends who are interested in other kinds of flowering shrubs. The 3,000 and more varieties of camellias which are at our disposal at the present time are only a very small part of the possible number of mutations and hybrids which we will develop in future years.

# THE CULTIVATION OF TEA (CAMELLIA SINENSIS) IN EAST AFRICA

*By* N. A. GOODCHILD

The cultivation of the tea plant is a comparatively new industry in the East African territories and it may be of interest to follow its development in the various regions before considering the cultural procedures associated with them.

The first trials to see if the crop could be grown satisfactorily date from the beginning of this century, although it was not grown on a commercial scale until much later. In the year 1900 a consignment of tea plants was grown at the Botanic Gardens, Entebbe, Uganda, and growth was found to be very satisfactory. At about the same time, tea was introduced into Tanganyika by the Amani Research Station in the Usambara Mountains. In Kenya the early experiments date from 1903 when Mr. G. W. L. Caine and his brother at Limuru imported some seed of the Manipur hybrid jat through the Botanic Gardens, Calcutta. These plantings were successful, although a number of plants died due to lack of knowledge at that time of the correct planting months for eat. These original plants are still in existence.

According to J. K. Matheson (1) the first tea plant to be raised at Kericho (now the largest tea district in East Africa) was grown by Mr. H. B. Partington, the District Commissioner at the time. This plant was grown in the Prison Gardens and is now a large tree. It was probably planted in 1907.

Further small importations of seed into Kenya took place between these early trials and 1925. It was not, however, until the latter year that tea was noted officially in the Agricultural Census with an acreage of 382. Most of this was at Kericho and Limuru. By this time, three companies had acquired land in the Kericho district and 1925 may be considered as the beginning of large scale expansion of the industry. The annual increase in the area under tea was comparatively large up to 1933, by which year the Kenya acreage was nearly 12,500. In Tanganyika the tea acreage was reported to be 2,739. In Uganda the area under tea was 186 acres in 1926 and 1,691 in 1934.

Expansion was limited between 1933 and 1947 by the terms of the International Tea Restriction Agreement of which the three East African Governments were signatories, together with the main tea-producing countries of Asia. The object of the Agreement was to control world production and, by doing so, to partially reduce the slump in prices that occurred in the 'thirties. After the last world war, the three East African Governments decided to withdraw from the Restriction Agreement and to allow unrestricted expansion of the industry. This has resulted in increased development in the established tea regions, and has also resulted in the planting of tea in regions where previously there had been little or none.

The latest statistics available show that at the end of 1954 the acreages for Uganda and Tanganyika were 9,278 and 10,860 respectively, and the area in Kenya at the end of 1955 was just over 25,000 acres.

The tea areas of East Africa are widely separated and scattered over the whole region from Tukuyu at the northern tip of Lake Nyasa in Southern Tanganyika (9.15°S) to Fort Portal near to the Ruwenzori range in western Uganda (0.40°N). The elevation at which tea is grown varies

from 3,000 to 8,000 feet above sea level. As might be expected, taking into account the large area and differences in altitude, a considerable diversity of soil conditions and climate is encountered. Fortunately tea is tolerant of a wide range of climates and, to some degree, of different soil types provided that the soil is acid. This tolerance, particularly of climatic conditions, is largely due to the number of so-called jats (varieties and hybrids) of which the tea population consists. Thus, the small dark-leaved China hybrid type is nearly always associated with the areas at very high altitudes which are comparatively cool, whereas the large light-green leafed Assam type does best in lower districts with warmer climates. The term jat is a broad one and is used generally to describe a type rather than a variety. Varieties, as such, are practically non-existent in cultivated tea, nearly all of which consist of hybrids, although it is generally recognized that originally there were at least three distinct types, that is the China, the Assam, and the Cambodia or Indochina. There is tea in East Africa that is predominantly one or other of the two extreme types mentioned above, the China and the Assam, but the majority consists of the intermediate jats with darkish, medium sized leaves. Tea is almost entirely cross-pollinated and, for this reason, the degree of variation is considerable.

Tea, for economic production, is generally considered to require an annual rainfall of at least 60-70 inches, and the paucity of rainfall over much of East Africa has confined tea growing to comparatively well defined areas where the rainfall is reasonably abundant. These regions are nearly all either near to an escarpment or to a large lake (Victoria Nyanza, and Lake Nayasa) where the precipitation is considerably higher than that of the surrounding country. Even so, there are a number of districts where tea is grown with a rainfall of 45-55 inches which, compared to that of the tea areas of Asia, is distinctly marginal. Mist during the dry seasons is one of the main factors in a number of these low rainfall belts that enable the tea to produce reasonable crops of a somewhat higher order than would be expected from a study of the annual rainfall alone. In other regions, high crops are produced on comparatively low rainfall (55-60 inches) due to its even distribution. As is to be expected, crops vary considerably from place to place, from 200 to 1500 lbs. of manufactured tea per acre.

Tea soils are, in general, red lateritic loams derived from various parent rocks. These have been developed in regions of 40 inch rainfall and over. The pH values vary from about 4.5 to 6.2, the upper limit for tea being about 6.0, but this largely depends on the availability of aluminium in the soil. In Southern Tanganyika tea is grown on rather different types of soil overlying pumice. All the soils are well drained and most of them are very fertile compared with those in India and Ceylon, and responses to fertilizers are, in general, less than in other countries. The soils erode comparatively easily but slopes in most districts are not steep and measures to prevent soil erosion are not difficult.

Propagation is, at the present time, nearly always by seed, although experimental areas have been planted with selected clonal stock propagated by cuttings. Owing to restrictions placed on the import of seed from Asia because of the presence of Blister Blight disease (*Exobasidium vexans*) East Africa has to be practically self-supporting and new extensions depend largely on the seed supplies of the three territories. Most of this seed comes from Tanganyika,

and small quantities are imported from Nyasaland and the Belgian Congo.

The seed is first put in water and the floaters kept separately from the sinkers, as the light seed gives a lower percentage germination. The seed is invariably germinated in damp sand or under damp sacking and the germinated seed planted in the shaded nursery as soon as the radicle appears; this ensures an even stand. Seedlings remain in the nursery for 2-3 years before being stumped (stem cut to 4-6 inches) and planted, bare root, in the field. The shortage of seed and the need for increased crops is arousing interest in the propagation of superior clones by means of leaf cuttings consisting of a leaf, bud, and internodal stem. Once rooted, they can be treated in much the same way as seedlings. During the first 4 to 5 years they are in the field, tea plants have to be pruned 2 or 3 times to induce a bushy frame and discourage the natural tendency towards apical growth. The first prune is low, usually at about 8 inches from ground level, and the others progressively higher up to about 16 to 18 inches. At the end of this bush forming process the tea is cropped lightly for about 3-4 years, depending largely on the climate. After the ensuing prune, at 18-20 inches, the tea is treated as mature tea and the leaf is then plucked at more or less regular intervals for the periods of 2-5 years between prunes. The length of the pruning cycle, as it is called, depends mainly on the climate and partly on the type of plucking system followed.

*Camellia sinensis*, in the wild state, is a low tree growing under high forest, but it grows perfectly satisfactorily in many parts of Africa in full sunlight once past the seedling stage. The only noticeable difference between shaded and unshaded tea is that the foliage of the unshaded plants tends to be rather yellowish. This has, however, no apparent effect on the vigour of the plants or their rate of growth. Mature tea is sometimes grown under a tree shade but not always, although in districts where hot, drying winds occur frequently in the dry season, tree wind belts are essential. The shade tree species depend largely, like so much else, upon the climate and elevation. At the higher altitudes *Grevillea robusta* is the most common, while below 4,500 ft. *Albizzia stipulata* is largely grown.

The tea planters in these territories are fortunate in having very few pests and diseases to contend with. The only major fungus disease is the root disease caused by *Armillaria mellea*, which attacks the tea from old forest tree roots left after clearing. This is combated by ring-barking forest trees prior to felling. Termites are pests in some areas where they ring-bark mature tea. The remarkable freedom from pests and diseases is undoubtedly due to the fact that Africa is isolated from the main tea growing areas, and also that there are no indigenous Camellia species to harbour pests and parasitic fungi.

This short description of the tea industry in this part of the African continent would not be complete without some mention of its latest adjunct, namely the Tea Research Institute of East Africa. Prior to the war, the acreage of tea was obviously quite insufficient to support its own research establishment. Since the territories contracted out of the Restriction Agreement, with the resultant expansion, the situation changed and in 1951 the Tea Research Institute of East Africa was duly incorporated, with its headquarters. and laboratories in Kericho, Kenya. Work in the laboratories actually commenced at the beginning of 1950 with a scientific staff, at that time, of three, including the first Director, Dr. T.

*(Continued on Page 15)*

# THE SNOW CAMELLIA OF JAPAN

PART I

## On the Trail of Camellia rusticana

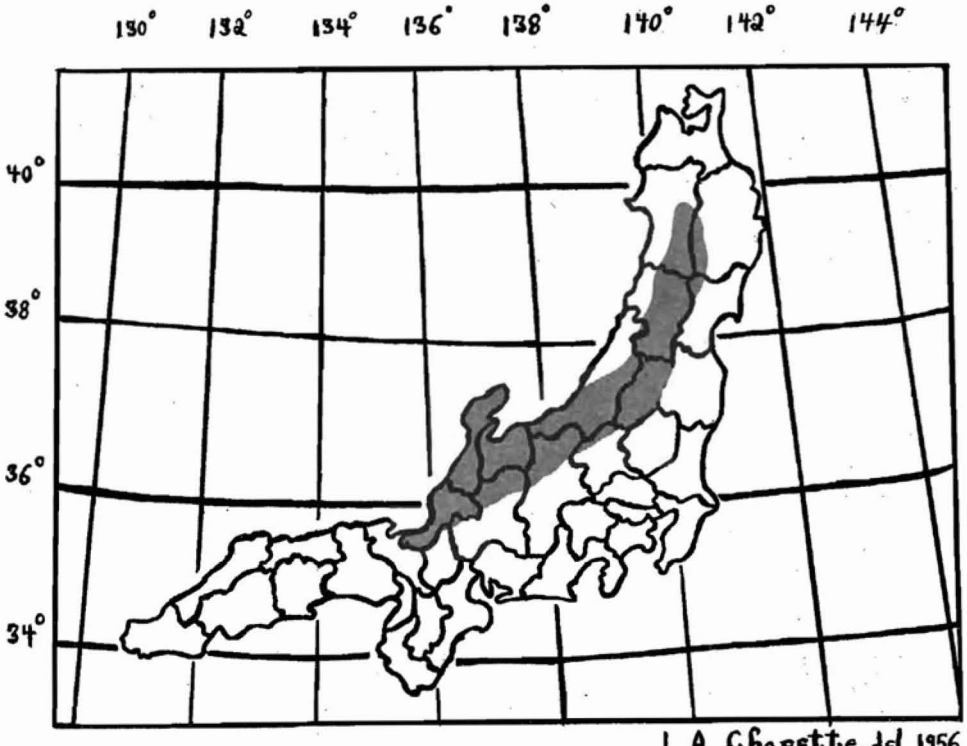
*By* L. A. CHARETTE

In August, 1953, a list of plants desired for propagation at the Missouri Botanical Garden was included in a letter received from Dr. F. G. Meyer. Of the species enumerated in the list *Camellia rusticana* was one for which I could find no description in my manuals. At my request Dr. Meyer sent the literature he had available.

During a visit with friends at the Botanical Institute of Hiroshima University in September I endeavored to get more information. They related their observations and studies made on field trips in which the Snow Camellia was encountered and apprized me of the Japanese literature on the species. The nearest locality where it grew was a full day's journey to the northwest of Hiroshima. Plans were formulated to botanize there, if possible, in late April of 1954. It was during the course of our conversation that I learned of the Snow Camellia's distribution.

### Efforts Made to Find Plants

Much to my chagrin I realized that in August, 1953, while collecting with the botanists of the University of Hiroshima in the foothills of Mt. Zao, we had actually been at one of the most northerly known stations for the species, Lake Tazawa. Although my attention was being called to other interesting species of the




Distribution of Snow Camellia in Japan