

Heritage Rose Foundation Conference at Mottisfont, England in 2015

STUMBLING BEHIND THE MASTER Brighter Colors for Warmer climates

Viru Viraraghavan

STUMBLING BEHIND THE MASTER

BRIGHTER COLOURS FOR WARM CLIMATE ROSES

*"If these roses could be bred again and given more colour,
they would take the world by storm".*

Graham Stuart Thomas

The reference is to Tea Noisettes but the remarks apply
equally to Teas, Giganteas and Chinas



'Desprez a Fleur Jaune',
the rose which provoked
the observation

'The Master' being Graham Stuart Thomas, the legend who created the Mottisfont Abbey Wall garden. This is the text of the talk given at the Heritage Rose Foundation Conference, 'In The Footsteps Of The Master' in Mottisfont, U.K., in July 2015, to honor David Stone, the Head Gardener and protégé of Graham Thomas, who retired after 30 years at Mottisfont Garden.

When I first came to know the theme of this conference I felt that it was singularly appropriate as far as my own line of breeding was concerned. As some of you may be aware, the focus of my rose breeding has been the creation of better roses for warm climates. And there can be little doubt that of the existing kinds of roses, it is primarily the Teas, the Chinas and the Noisettes which are the obvious choices for a rose garden in the tropics. Even in the early stages of my work the observation by Graham Thomas on further breeding with Noisettes - which of course applies equally to Teas and Chinas - that "if these roses could be

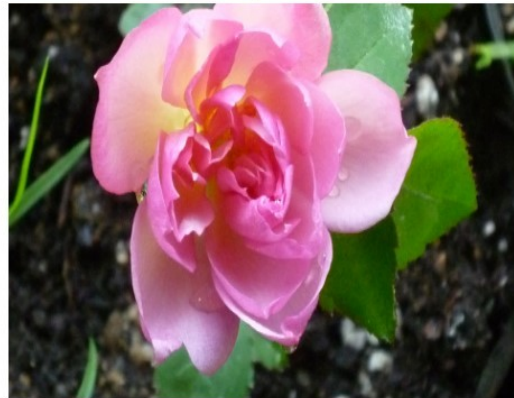
bred again and given more color, they would take the world by storm” was given great importance. He was referring to Noisettes like ‘Desprez à Fleur Jaune’, which provoked his observation.



The beautiful pastel shades of the Tea rose group are greatly enhanced by the ability of the petals of these roses to allow light to pass through. The new roses in brighter colours should retain this capacity.

How do we bring brighter colors into the Noisettes, Teas Giganteas and Chinas? Several possibilities are fairly obvious. The first and foremost is the introduction of the genes of *Rosa foetida*, on the logic that it was this step which caused the color explosion in the modern Hybrid Tea. But a timely word of caution from Dr David Leach, an authority on rhododendrons, is worth emphasis. He pointed out that the bright yellow colors of *Rosa foetida* are based on the water insoluble carotenoid pigments which are opaque to light. So, as the carotenoid content of a flower increases beyond a point, it loses the ability to allow light to pass through the petal which is the special feature behind the charming colors of the Tea roses.

create brighter colors



The first step has produced pinks with yellow base in crosses with Tea derivatives

There are three different basic steps possible in this endeavor. They are:

1. The use of the variety 'Fortune's Double Yellow', which according to Prof. Eugster (2) is the only rose of the Tea/Noisette group with the ability to undertake the early steps in the carotenoid synthesis.
2. The use of modern roses in which the carotenoid is already present, especially some of the very fertile yellow Ralph Moore miniatures like 'Rise 'n Shine', as well as other dwarf yellows. Yellow H.T.s I felt should not be used as they would increase the size of the flowers beyond acceptable Tea rose norms. This of course does not apply to hybrid giganteas.
3. It is a somewhat surprising fact there are some Tea roses which are the result of crossing standard Teas with *Rosa foetida*. These could be used. One of the few still available in this group is 'Jean Andre'.



The progress so far made on utilizing possibilities 2 and 3. can be seen in the photographs of 'Jean Andre' (one of the few Foetida Teas) and my two seedlings, *introducing the genes of R.foetida through crosses with miniatures*



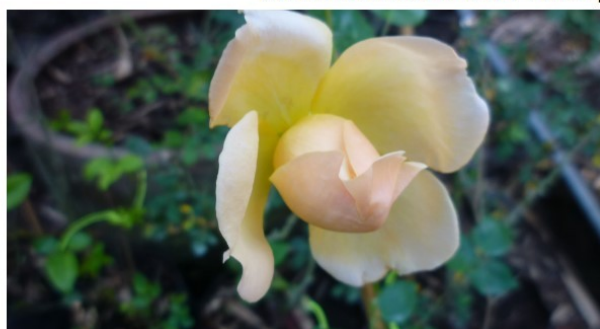


As regards 'Fortune's Double Yellow', several seedlings have been raised but the first generation are all disconcertingly pink so now a second generation is being raised.

Progress in introducing the genes of *R. foetida* through crosses with miniatures



Rise'nShine x Tea / clinophylla seedlings



**Baby Love x Tea /
gigantea seedling**

Lilac colours in Teas



**Reve d'Or x Pink
Surprise (R.bracteata x
R.rugosa)**

The golden shades apart, we have to consider what can be done to create Tea etc roses in shades of lilac and purple as also in the orange colors. Some progress has been made using the Rugosa/bracteata Lens hybrid, 'Pink Surprise', crossed into Reve d'Or .



My work from the beginning has included the polyantha 'Echo' in a search for freedom of flowering in the new strains. But Echo is also the forerunner of the Koster strain of bright colored polyanthas which are mutations from 'Echo'. So far, such a mutation has not occurred with my new roses, bringing in orange colors based on pelargonidin which lie at the basis of the Koster series. I must also confess that I am somewhat put off by the prospect of the howls of protest which are likely to greet Tea roses in shades of 'Orange Triumph' and its successors.

Apart from the introduction of *R.foetida* genes, fresh infusion of *R. gigantea* leads to brighter colors..



Amber Cloud
Reve d'Or x *R.gigantea*
Effect of *R.gigantea*



***R.Gigantea* seedling**
Effect of *R.foetida* genes

The genetic potential of the Tea rose line has perhaps been already fully exploited. So many hundreds of these classes have been raised and lost in the past. It is therefore necessary to bring in fresh blood and my new strains bring in the genes of *Rosa clinophylla*, perhaps the world's only tropical rose species, and of *Rosa gigantea*. The latter is for the reason that increasing the gigantea content of Tea roses seems to lead to better yellow shades. Indeed, *Rosa gigantea* is present in the old Tea roses, but somewhat distantly.



Another interesting possibility towards enlarging the genetic mix behind the new roses is to bring in *Rosa laevigata*. The first step has been taken with a cross between a seedling of Tea rose extraction selected for heat resistance and *laevigata rosea*, a *laevigata* hybrid from Japan.

Effect of bringing in *R.laevigata*



A Tea rose derivative X *Laevigata rosea*

No signs so far of the predicted storm. Perhaps it is the calm before the storm.

References:

1. Page 159 The Graham Stuart Thomas Rose Book, 1994, while discussing 'Desprez à Fleur Jaune').
2. Organisch-chemisches Institut der Universität Winterthurerstrasse, Zurich CH 8057, Switzerland in Angewandte Chemie June 1991