

World Regional Rose Conference at Nanyang China, 2019

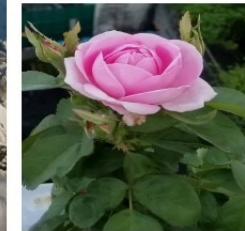
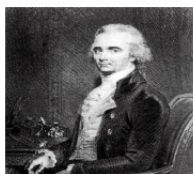
INTREPID ROSES

HOW ROSES REACHED INDIAN GARDENS BY PERILOUS PATHS, TREACHEROUS SEAS, SWAMPS AND HIGH MOUNTAINS

M.S. Viraraghavan

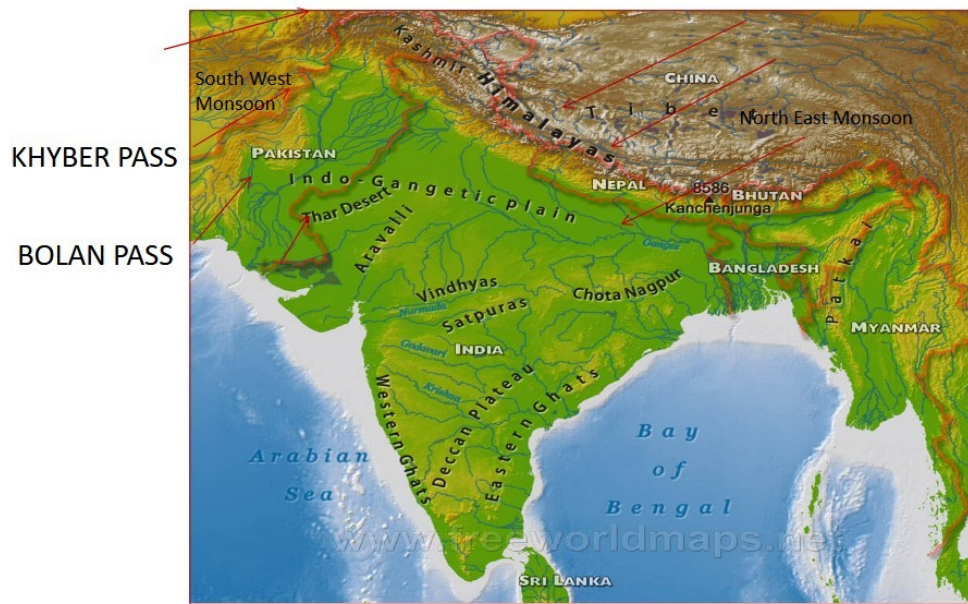
INTREPID ROSES

HOW ROSES REACHED INDIAN GARDENS BY PERILOUS PATHS, TREACHEROUS SEAS, SWAMPS, AND HIGH MOUNTAINS



India, often referred to as the 'Indian sub-continent', has a climate influenced greatly by

1. The Himalayas, the world's highest mountain range, which, effectively prevents cold air from Central Asia reaching the country, and
2. The two monsoons – the South West Monsoon (June to September) where most of the rain falls over large parts of the country, and the North east monsoon, (October to December) which covers the southern part of the eastern peninsular coast.



Why do we refer to roses which came into India as intrepid roses? This is for the simple reason that the two entry points to India through the Himalayan mountains in the north, and the oceans around the coast - the Bay of Bengal on the east and the Arabian Sea on the west, were indeed difficult, even hazardous points for the entry of roses, which our researches show was much earlier than previously reckoned.

Access through the Himalayas was feasible only through 2 passes – the Khyber Pass and the Bolan Pass, which lie on the border between Afghanistan and present day Pakistan – this was the trade route through which roses must have arrived.

THE SILK ROAD-BY LAND AND SEA



This route would have been connected to China and further east through the famed Silk Road, which was a most romantic but tremendously dangerous access, dominated as it was by violent tribesmen often at war with each other. This is the area of the world's fastest horses and the fiercest conquerors – Genghis Khan and Tamarlane to name but two.

The seas in those days - pre Christian era - were hardly of easier access as the monsoon winds and the frequent storms called cyclones, made sea voyages very difficult indeed for the sailing ships of yore.

It is therefore quite amazing that the love of the rose overcame such dangers, and roses reached India and the rest of the world carried by intrepid adventurers. Hence, intrepid roses.

SOME WILD ROSE SPECIES IN THE HIMALAYAS

ROSA MACROPHYLLA



ROSA GIGANTEA



ROSA BRUNONII



ROSA WEBBIANA



A few words on India's wild roses. As mentioned earlier, the Himalayas moderate the country's climate with the result that areas on the plains have a much warmer climate than other places at the same latitudes across the northern hemisphere.

Consequently, our wild roses are confined to the higher reaches of the Himalayas, including the mountains in the north East on the border with Myanmar. There are over 8 endemic rose species in the Himalayas and if we include their eco-types, the numbers increase to many more. Apart from endemic species, there occur here a number of wild roses which have migrated both from the east and west - from China and further east as well as Iran and further west.

On the plains of the Indian mainland the only species present is that remarkable tropical rose, *R. clinophylla*, about which we will speak later.

The highest areas - above 1500 meters elevation - of the Western Ghat mountains of south India are home to that largest flowered of all musk roses,

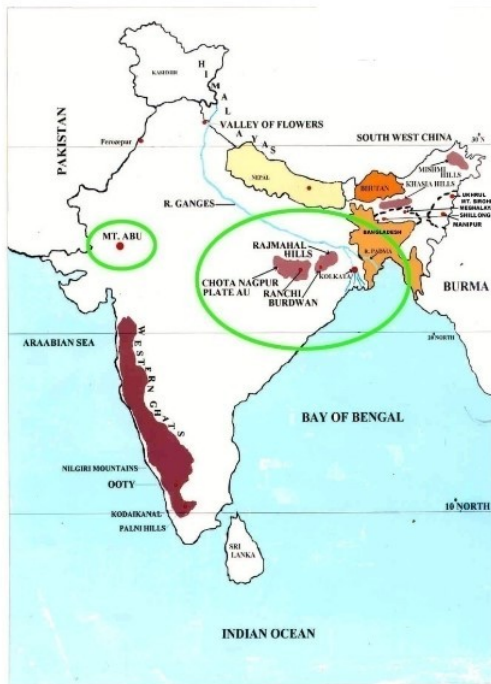
R. leschenaultiana.

TWO INDIAN SPECIES ROSA CLINOPHYLLA AND ROSA LESCHENAULTIANA

ROSA CLINOPHYLLA



ROSA LESCHENAULTIANA



DISTRIBUTION OF THESE SPECIES IN INDIA

“SINTRA PRASHASTI” OF SOMNATH TEMPLE IN PORTUGAL



Somanatha Temple Stone
Pillars in “ Penha Verde”
garden in Sintra , Portugal

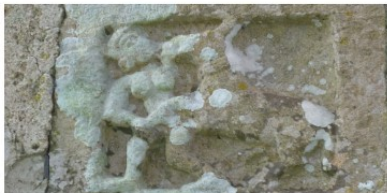


We now come to the focus of this talk - how different heritage roses and species entered India over the centuries by land and sea. The crucial point we would like to emphasize is that the arrival of these roses occurred substantially earlier than what was thought before, with the discovery of the Sintra Prashasthi or stone tablet, dating to 1287 C.E. This tablet, which presently is lodged in a heritage property in Sintra, near Lisbon, Portugal, was originally erected in the temple of Somanatha, in western India, a temple which is now under the sea. The tablet, which is an edict of a king in the region, commands the gardener's guild to supply 200 white roses and 2000 white oleanders to the temple every day of the year in return for which the guild would be granted lands. Such white roses which could flower throughout the year could only have been a Chinese rose - as you know, the quality of continuous flowering was the gift of China to the world of roses. These roses must have been growing in western India for quite some time at the time of the edict. We speculate that they would have arrived from China through the Silk Road. As our map shows the Silk Road refers both to the land route as well as the sea route from the east to India and further west to the Middle East and Europe.

Somanatha Temple Pillars



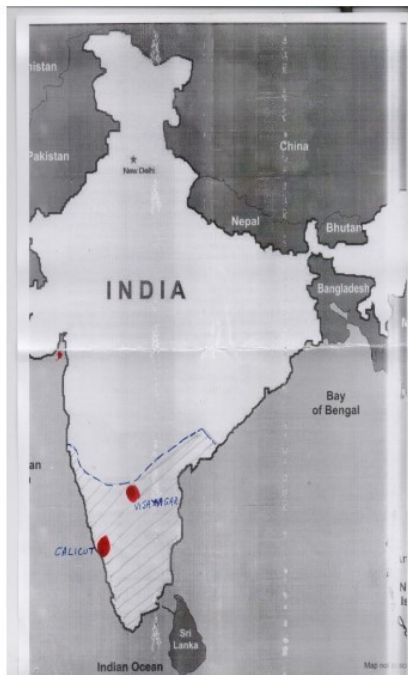
**Sanskrit
Lettering**



We visited Sintra some years back to view the tablet - it was indeed ancient, the words written in Sanskrit, the language of ancient India. But we hasten to clarify that the date of the tablet 1287 C.E. is the only direct evidence we have as of now of the date of arrival of roses into India.

Surprisingly enough, another (or is it the same?) repeat flowering white rose appears in another part of India.

THE VIJAYANAGAR EMPIRE 14TH TO 16TH CENTURIES

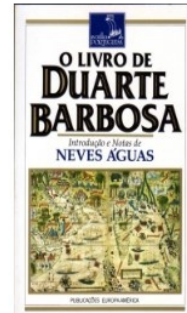


DOMINGO PAES VISITED VIJAYANAGAR IN 1537 C.E.

We are now talking of Vijayanagar, the capital of the great empire of the same name which ruled south India between 1300 and 1500 CE. Two Portuguese travellers, Domingo Paes and Fernando Nuniz, write about the king being garlanded with white roses and his palace being decorated with white roses during a festival called Dasehra, which falls in October every year. Surely this must have been a repeat flowering rose? Vijayanagar was no ordinary city in those days. It was described as being larger than Rome by the Portuguese traveller Duarte Barbosa.

DUARTE BARBOSA

Duarte Barbosa 1480-1521 C.E



Duarte Barbosa (1480-1521) from Portugal wrote about the Vijayanagar Empire:

'The substances with which they are always anointed are these : white sanders-wood, aloes, camphor, musk and saffron, all ground fine and kneaded with rose water. With these they anoint themselves after bathing and so they are always very highly scented'.

"People made use of rosewater, especially in summer on a large scale. They showered it on their bodies from small spouted leather bottles'.

RASHID AL DIN ABOUT GUJARAT AND ROSES

Rashid al Din 1247-1318 C.E

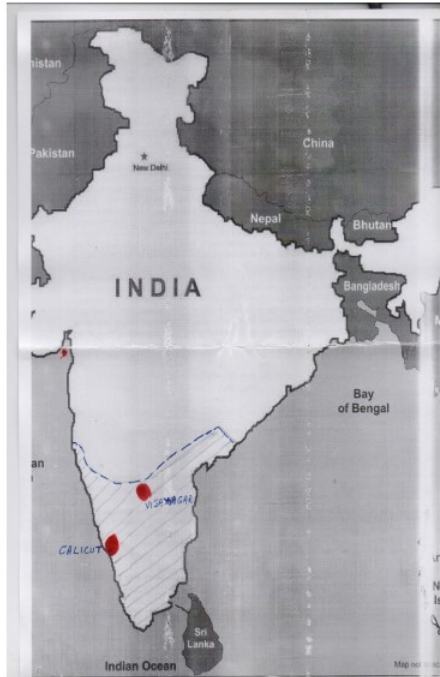


Rashid al Din Hamadani, 1247-1318, was a Persian statesman, historian and physician who wrote the Jami-al-Tawarikh or Compendium of Histories about many countries apart from Persia. About India he writes, around 1300, that in the state of Gujarat "the inhabitants are rich and happy, and during the four seasons, no less than seventy different sorts of roses blow in this country".

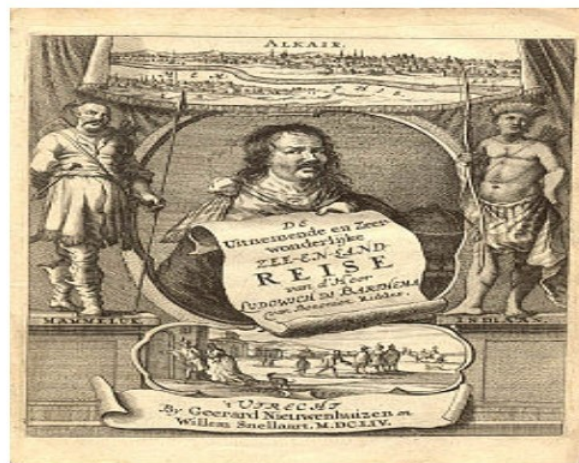
Earlier we had mentioned about the Sintra Portugal tablet white roses having probably arrived through the Silk Road. Clearly many more roses came to India through this same route because another traveller Rashid al Din, around 1300 C.E. talks of the people of Gujarat, in the west of India, being very fortunate to grow more than 60 kinds of roses.

CALICUT AND ROSES

Ludovico Varthema 1470-1517 C.E

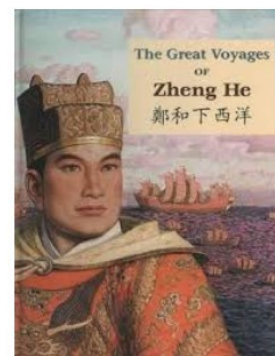


Varthema, an Italian from Bologna (1470-1517), has this to say about Calicut, which he visited in 1503: " This country produces innumerable flowers of great beauty and most pleasant flavour, all the year round, and especially roses, both red, white, and yellow".



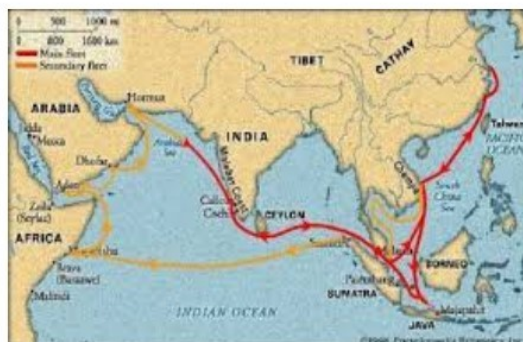
Going to south India again, to the west coast, we have the narrative of Ludovico Varthema, in 1503 C.E., to the effect that the people of the area around Calicut, grow roses in white, pink, red and yellow. How did so many roses reach this location? Clearly it must have been through a sea route.

ADMIRAL ZHENG HE IN CALICUT



Speculating again, there is ample evidence of Chinese ships calling at Calicut port, including the fleet of that great Admiral Zheng He. Indeed, he is reputed to have died in Calicut in 1433 C E.

VOYAGES OF ADMIRAL ZHENG HE



ADMIRAL'S FLEET OF SHIPS



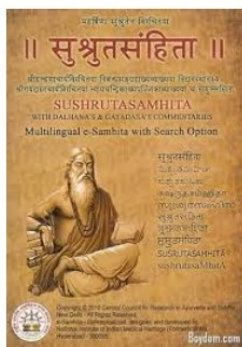
HIS GALLEON

Chinese galleons often carried pots of roses on board to remind the sailors of their homeland. It is thus quite possible that roses in different colours reached India's west coast in this manner.

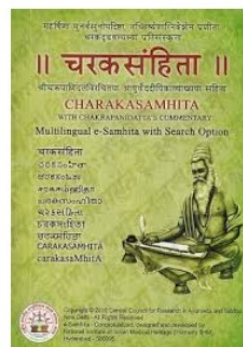
CHINESE FISHING NETS STILL IN USE TODAY IN CALICUT



AYURVEDA AND ROSES



The Book Of Surgery by
Susruta 6th Century B.C.E



The Book of Medicine by
Charaka 4th Century B.C.E



Palm Leaf extracts from an
Ayurvedic text

The medicinal virtues of roses

It was considered to be cooling, it was bitter in taste, it was a laxative, an astringent, an expectorant, an appetizer, it cured fevers and boils, it lessened stomach burning.

We have said earlier that the date of the Sintra Tablet, 1287 C.E., is the only direct evidence which we have of when roses reached India from other lands. But we must emphasize that in ancient India where history was never documented but was invariably only passed on by word of mouth, it is difficult to be precise. There are references to roses from very early times. In the ancient treatises on Ayurveda, the Indian system of medicine, authored by eminent physicians like Susruta (around 6th century B.C.E.) and Charaka (4th Century B.C.E.) there are references to the use of roses for the treatment of various ailments. These roses could be both the species in the Himalayas and those which may have come in from other lands, since there was trade between India and adjacent countries from earliest times, and with Buddhist pilgrims travelling to and fro.

CULTURAL EXCHANGES IN OLDEN TIMES CHINA TO INDIA



Fa Hien
(FAXIAN) 5TH CENTURY C.E.



HIUEN TSANG (XUANZANG) 7TH CENTURY C.E

Two well known Chinese pilgrims were Fa Hien (Faxian) and Huiyen Tsang (Xuanzang).

CULTURAL EXCHANGES-INDIA TO CHINA



BODHIDHARMA 5TH CENTURY C.E



SHAOLIN MONASTERY IN BODHIDHARMA'S TIME



HIS STATUE IN SHAOLIN MONASTERY



PAGODAS OF SHAOLIN MONASTERY IN EARLIER TIMES

THE MOGHUL DYNASTY 16TH TO 19TH CENTURIES C.E.



BABUR 1ST MOGHUL EMPEROR 1526-1530



BABUR GOING TO WAR



BABUR JOURNEYING TO INDIA FROM CENTRAL ASIA



And in reverse, a Buddhist scholar from south India, Bodhidharma (called Damo in Chinese) went in the 5th century C.E to China and started the Chan (Zen)-system of Buddhism in the monastery called Shaolin in Henan region. He is credited with creating the Shaolin Kungfu martial arts system. Some of you who are going on the post conference tour, will visit this monastery.

Coming to the Mughal Empire era - 1500 C.E. onwards, the first Emperor of this dynasty was Babur.

EMPEROR BABUR

BABUR



BABUR MAKING A GARDEN



THE MUSK ROSE HE BROUGHT TO INDIA –R. moschata natarana



In his autobiography entitled Baburnama, he talks of introducing the musk rose from Persia (Iran) into India, along with the narcissus. Babur had his roots in Central Asia, and the musk rose he refers to is *Rosa glandulifera*, now *Rosa moschata natarana*, the Persian form of the musk rose.

There are no further references to rose introductions during the Mughal period of Indian history though all the emperors and their courts were garden lovers and established many gardens of roses and other plants.

EMPRESS NUR JEHAN WHO DISCOVERED MAKING OF ROSE OIL



EMPRESS NUR JEHAN AND EMPEROR JEHANGIR



R. damascena bifera

There is however an interesting story of this time - the discovery of rose oil, called attar, by the Empress Nur Jehan, wife of the Emperor Jahangir in the 1600's. Whilst immersed in her bath of hot water scented with fragrant rose petals, she saw an oily fragrant substance floating on the water surface. This was rose oil called 'attar' which became the base of many scents and was widely used in Indian cuisine. Rose water is said to have been discovered during early Buddhist times, and is mentioned in Ayurveda texts.

What was this rose that Nur Jehan scented her bath with? Much later when roses were commercially cultivated for extraction of rose oil, in places like Ghazipur, Kanauj and other areas of north and east India, the rose used was *R. damascena bifera*, the Autumn Damask. Since this rose is also of Persian or Middle Eastern origin, it is reasonable to conclude that this too was brought from Persia by the Mughal dynasty.

TWO GOLDEN ROSE SPECIES IN KASHMIR



R. foetida-the Persian Yellow Rose



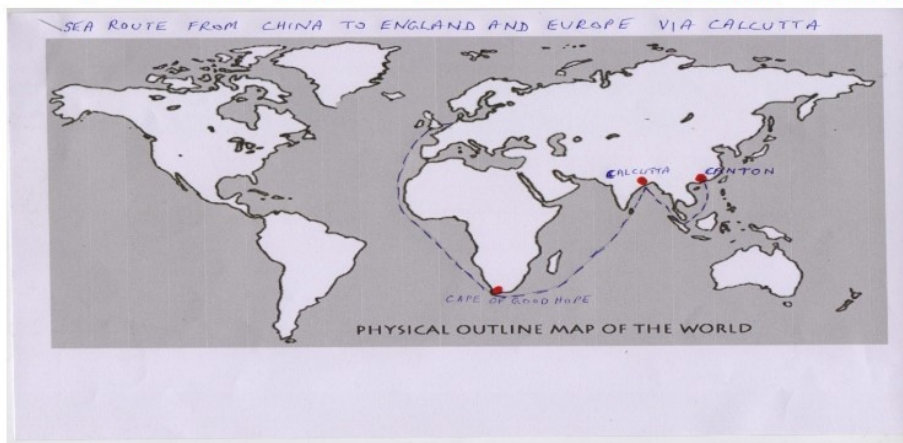
R. ecae

The Mughal Empire included the region of Kashmir, which lies immediately adjacent to Afghanistan, and in the mountains of Kashmir, we have the typical roses of Persia (Iran) - the two golden roses species - *R. foetida* and *R. ecae*. And they still grow there today.

The end of the Mughal period, mid 18th century, marks the start of the British rule of India, first as a trading company, the East India Company and later, from 1850s, directly by the British Government.

The British love of roses is well known and regular imports of roses and other plants commenced quite early; mostly from China, particularly from the port town of Canton, now Guangzhou. Even when the roses imported were meant to reach Britain, the ships would stop over in Calcutta, then the capital of India and a big port on the east coast, and the plants would be unloaded to have a rest cure, before continuing their journey. Transporting plants became much easier with the invention of the Wardian case.

SEA ROUTE FROM CHINA TO EUROPE FROM 18TH TO 20TH CENTURIES



THE WARDIAN CASE



EAST INDIA COMPANY GARDEN IN CALCUTTA



SLATER'S CRIMSON CHINA

One of the early arrivals was, apparently, 'Slater's Crimson China', still commonly found in Bengal 'The Book of Roses' written by Mrs. Gore in 1838, which relies on an earlier French text, talks of the tigers of Bengal hiding in huge rose bushes in the forests before pouncing upon their prey.

Many roses from China reached India. One which passed through Calcutta without ever flowering there, was that incredible beauty, 'Fortune's Double Yellow'.

MIGRANT ROSE SPECIES IN THE HIMALAYAS



R. laevigata



R. bracteata



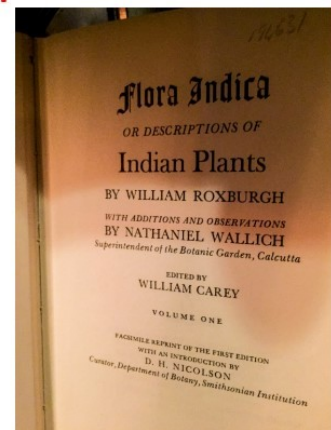
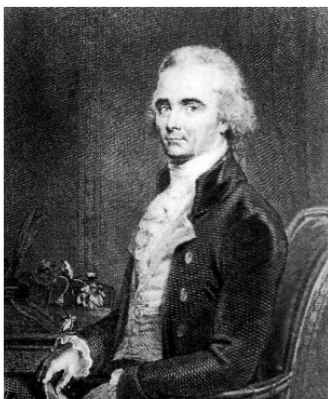
Yellow double banksia



White double banksia

In the Himalayas there are a number of rose species not typically Indian, which have migrated and naturalized. Like *R. laevigata*, *R. bracteata*, and the two *banksias*, the yellow and white and the double flowered forms. These obviously travelled from China and adjoining Burma, now Myanmar.

WILLIAM ROXBURGH



ROXBURGH 'S HOUSE IN THE INDIAN BOTANIC GARDEN, CALCUTTA

THE CHINESE CONNECTION TO CALCUTTA IN ROXBURGH'S TIME

'A Description of Indian Plants' by William Roxburgh 1832

Mention of roses brought from China -- Canton

1. *R. glandulifera* Roxb.
2. *R. diffusa* Roxb.
3. *R. microphylla* **Hoi-tong-hong**
4. *R. triphylla* Roxb. **Tsha-te-bay-fa**
5. *R. inermis* 2 forms; Double white flowers **PO-mou-he-wong**
6. Double yellow flowers **Wong-mour-he-wong**



CHINESE PLANT PAINTING COMMISSIONED BY ROXBURGH



CHINESE GARDENERS IN THE INDIAN BOTANIC GARDEN CALCUTTA

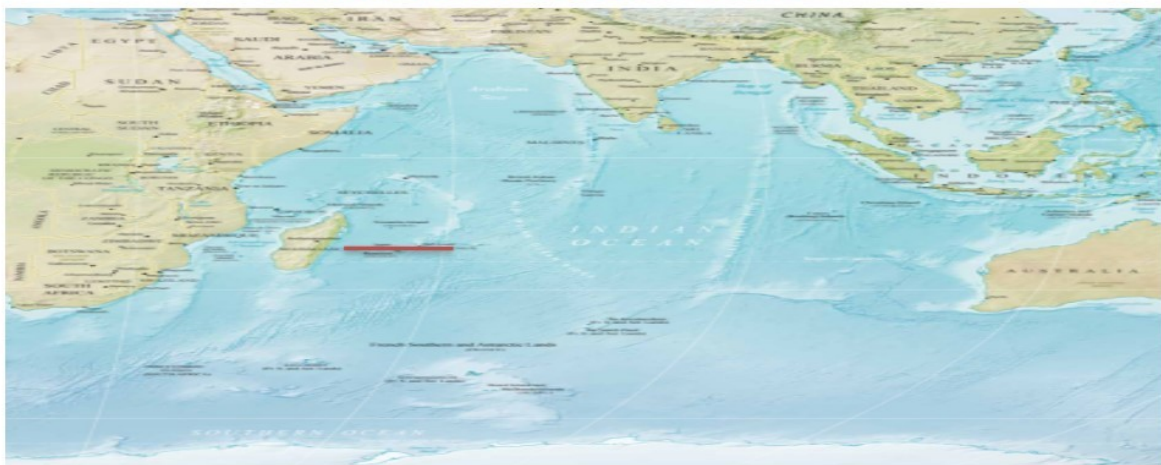
The great British botanist William Roxburgh wrote 'Flora Indica' in which he mentions the roses growing in India and particularly in the botanic garden in Calcutta. Many are clearly of Chinese origin, in fact he gives the name of two roses with their Chinese names. Both in his research station in Samalkot, much to the south of Calcutta, on the east coast, and in the Calcutta Botanic Garden, Roxburgh even had Chinese gardeners to look after his plants.

ROSE EDWARD (EDOUARD) IN INDIA



We now come to two heritage roses, both widely grown in India, particularly for making garlands used in worship. The first is *Rose Edward*, generally held to be the first of the Bourbons, a semi-double, extraordinarily fragrant, continuous flowering rose, which grows from the delta of the River Cauvery in the extreme south up to the foothills of the Himalayas - virtually the entire length of the country. This rose till recently was cultivated in several hundreds of hectares around the temple town of Tanjavur in the Cauvery Delta.

ROSE EDOUARD (EDWARD) IN REUNION ISLAND



There are various theories about the origin of *Rose Edward*, but the majority of experts believe that this variety arose in the Indian Ocean in the island of Reunion, which was, and continues to be a French territory. It lies between Madagascar and Mauritius. Sometime around 1820, the then Superintendent of the botanic garden in Reunion, M. Perichon, noticed a very fragrant repeat flowering rose. His opinion was that it was a natural cross between the China 'Old Blush' and the Autumn Damask rose, which were planted close together to form hedges for agricultural fields. He sent plants and seeds of this cross to France where it was identified as a new rose and named 'Rose Edouard'.

How did this rose from Reunion reach India, which is quite a distance away, so as to be so widely cultivated in the Cauvery area quite early on and then spreading all over the country? There is, therefore, another school of thought which believes this to be a rose of the Indian region based on the fact that it was cultivated on such a large scale so soon after the hybrid from Reunion was identified. Did it travel from India to Reunion?

“KAKINADA RED”(STUDY NAME)



GARLANDS WITH KAKINADA RED

Another heritage rose is again widely used for making garlands. We have identified it with the study name 'Kakinada Red', Kakinada being the name of a port town on the eastern coast between Calcutta and Madras (now Chennai). This is again a Bourbon with a very sweet fruity fragrance with hints of apple, quite different from the damask fragrance of 'Rose Edward'.

“KAKINADA RED” GROUP



“PACIFIC”



“MAGGIE”



Julius Fabianics de Misefa (Geschwind)



Fen Hong Bao Xiang an old Chinese variety

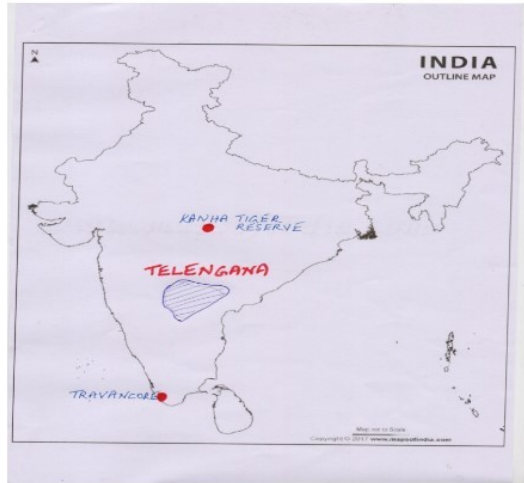
DNA studies done in Canada have shown that this rose is the same as the one called 'Pacific' in Bermuda and 'Maggie' in southern USA, and all of these have close links to a rose called 'Julius Fabianics de Misefa' which was bred by the Hungarian rose breeder, Rudolf Geschwind in late 1890s. If Kakinada Red is actually a Geschwind rose it is indeed surprising that it seems to have reached India almost immediately after being bred. Its occurrence in Bermuda and the US is equally surprising. Professor Wang Guoliang however feels that this rose came from China and is known as 'Baoping' there.

Another Geschwind rose, 'Gruss an Teplitz' has been grown all over north India on a large scale. Its appearance in such large numbers from the earliest times is again quite surprising.

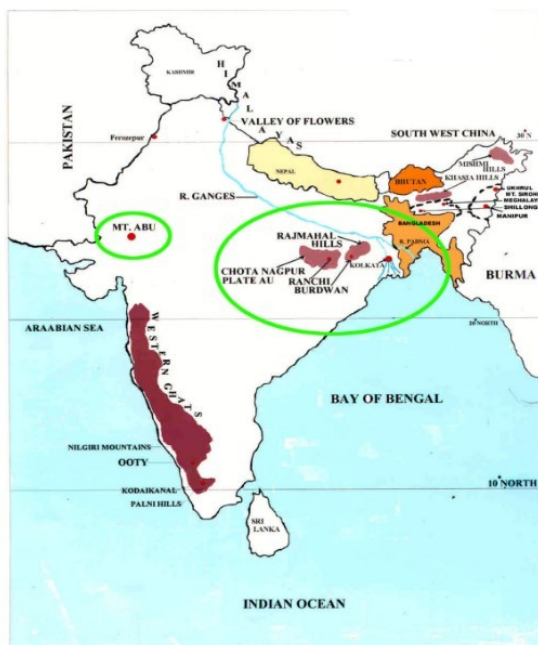
We now come to an even more mysterious and unidentified rose, our study name for it being 'Telengana Pink' for the place where we first found it in the 1960s. This rose is very much a China with typical habit of growth bearing light pink flowers with beautiful Hybrid Tea form at bud stage. Our travels within India show that it grows over an extraordinary range – the courtyards in the wooden palace of the erstwhile kings of Travancore in the extreme south to many areas in peninsular India, including Telengana, in central India near the Kanha Tiger Sanctuary. We also found it in Thailand in the Petchaboon hills. None of the world's rose experts have been

able to identify this rose. Nor does anyone have a convincing explanation for its occurrence in south Asia.

“TELENGANA PINK”



R.clinophylla



Now to our favourite species rose - probably the only tropical species in the world – *Rosa clinophylla*, found in the most exotic locations in India and Bangla Desh - in the 'jheels' or lakes of Bengal and Bangla Desh, on the banks of forest streams of central India, and on the isolated mountain top, Mount Abu, in the desert of Rajasthan in western India. It was reported by British botanists to have been seen in the south too.

THE “JHEELS” WHERE THE SPECIES IS FOUND IN BENGAL AND BANGLADESH



OTHER HABITATS OF R.CLINOPHYLLA



CHOTA NAGPUR PLATEAU



MOUNT ABU , RAJASTHAN

This discovery of this amazing species was made in the mid 1800s, in British Indian times, by a Mr Rose, Superintendent of Post Offices whose jurisdiction was Bengal and Bangla Desh which was then part of India. His only means of travel during the flood season was by boat, on rivers and lakes, and once while doing so, he found this rose coming out of the water. Specimens sent to M. Crepin the taxonomist in Belgium, were identified as *Rosa involucrata*, later renamed *Rosa clinophylla*.

We must mention that, in the 1980s, when we searched for this rose to begin our hybridisation to create warm climate roses, there was only one plant in cultivation in Bengal, the region where in earlier years it was said to be easily found, growing wild and in plenty.

In conclusion, we would like to emphasize that the near loss of this unique rose species emphasizes the need for urgent conservation steps around the world for the preservation of rose species. Along with other plants, roses are gravely threatened by climate change and many areas of their habitat are being developed. In this situation, ex situ conservation in botanical gardens of different climates becomes vitally important. It is most unfortunate that precisely when such ex situ conservation is urgently required that export regulations on plants in the world have become even more rigid. Even world famous research institutions are unable to get plant material for research and conservation. This problem needs the serious attention of WFRS and botanical gardens of the world