

# Breeding Roses for Warm Climates and the Role of Some Indian Rose Species





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**W**arm-climate rose-breeding has been the focus of my work for nearly 50 years now. It is an appropriate stage to record (with gratitude) the inspirational thoughts of the great rose men who have contributed so much to this program—something rather new in a rose world dominated by rose-breeding for temperate climates.

Four major ideas form the basis of my work.

First is the thought-provoking observation by India's pioneer rose breeder B. S. Bhattacharji (1901–1972), who stressed the need to have a separate line of breeding for warm climates.

The famed German hybridizer Wilhelm Kordes II (1891–1976) provided more clarity with his observation about the soup ladle bringing up only what is in the tureen, stressing the need for new genetic input if something original has to be involved. This is an observation doubly relevant when initiating work which implies a conscious reversal of temperate climate rose-breeding with its natural emphasis on cold hardiness.

Further clarity was provided by E. F. Allen (active 1970s and 1980s), the Royal National Rose Society's science adviser, in his 1976 presentation at the International Rose Conference in England, when he observed that the tropical rose species,

**FAR LEFT TOP:** *Rosa clinophylla* (photo by Robert Riptoe sp?)

**FAR LEFT BOTTOM:** *Rosa clinophylla* × *R. gigantea* (photos by Viru Viraraghavan)

**LEFT:** *R. × hardii*, hybrid of *R. persica* and *R. clinophylla* from *The Genus Roses* by Ellen Willmott, illustrations by Alfred Parsons, London, 1914

**TOP:** *R. gigantea* (photo by Doug Seidel)



*Rosa clinophylla*, could be the starting point for evolving heat-tolerant roses. Allen suggested the use of the Noisette, ‘Lamarque’, which does well in warmth, as the other parent of the new line, apart from *R. clinophylla*.

And the great pioneer of the heritage rose movement, Graham Thomas (1909–2003), provided the last piece of the jigsaw with his observation that if new Noisette roses (and, of course, their close relatives, the Teas and Chinas, which are the backbone of warm-climate rose gardens) could be created with more vibrant colors, they would take the rose world by storm. And whatever inhibitions were there in starting such a program were dispelled by the welcome support of Dr. B. P. Pal (1906–1989), doyen of modern Indian rose-breeding.

In this background rose-breeding work was started in the 1960s using mainly the Tea roses ‘Mrs. B. R. Cant’ and ‘Étoile de Lyon’. While there was some initial success, it soon became apparent that the genetic potential of the heritage roses had to be reinforced if the new objectives were to be achieved, and this provided the incentive to search for suitable Indian rose species—first of all, *R. clinophylla*, perhaps the world’s only tropical species, and the Indian form of *R. gigantea*, which is one of the glories of the rose world.

*R. clinophylla* proved surprisingly difficult to locate. Earlier, botanists had observed that the species was widespread in India with representatives of the different forms in our northeastern states, Assam, Bengal, and Bihar, with forms occurring further south in the central Indian state of Madhya Pradesh, the eastern coastal state of Orissa, with a further extension of occurrence to limited areas of the Western and Eastern Ghat Mountains of peninsular India. A less tropical form of the species, *R. lyelli*, was to be found in the lower altitudes of the Himalayas, in India and Nepal, and also, surprisingly, on the highest peak of the Aravalli Mountains of northwest India and the Thar Desert, Mt Abu.

Everywhere the tropical forms of *R. clinophylla* (unlike *R. lyelli*) were to be



found in what could be called the flood plains of major rivers, as well as in the swampy shores of some freshwater lakes, mainly in eastern India.

Without going into much more detail, it is essential to emphasize that *R. clinophylla* is wonderfully adapted to life in marshy areas—in fact, in the flood plains of the River Ganges, where there is a major occurrence, the rose is submerged in water for several months in the year with only the tips of the branches showing above the water. Indeed, it was thus first discovered by the appropriately named Mr. Rose, an English Superintendent of Post Offices, who, while traveling by boat in Bengal on work, since it was the flood season, saw it rising out of the water.

As the search for *R. clinophylla* continued, it soon became apparent that finding the plant in the wild would be very difficult. Even in the early years, field botanists had observed that this species had the curious habit of occurring in a local area, but not the adjacent similar climate areas, while reappearing at quite distant places. With the extension of agriculture to vast new areas, the habitat has been gravely threatened.

As often happens, the first success came about in a totally unexpected manner. My friend Narender Singh, a keen rosarian of Bihar who was on a hunting expedition, had camped in a forest near a stream in the Chota Nagpur Plateau (Bihar State). While exploring early in the morning, he noticed a rose at the water's edge and guessed that this could be what we were searching for. He sent me cuttings and—sure



**TOP LEFT:** *R. moschata* (photo by Doug Seidel)

**TOP RIGHT:** 'Lamarque' by Choix

**CENTER RIGHT:** 'Mrs. B.R. Cant' (photo by Bill Grant)

**RIGHT:** 'Etoile de Lyon' (photo by Doug Seidel)



enough—it proved to be one of the forms of *R. clinophylla*.

A second kind reached me in an even more circuitous fashion. Dr. Sivaprasad Bannerjee of Kolkata, a well-known horticulturist, had collected a plant of the species from the banks of the River Padma, which branches from the River Ganges and flows through Bangladesh. This was in the early 1980s. His small garden contained only

**LEFT:** ‘Little Darling’ (photo by Ron Robertson)

**BELOW:** ‘Rev d’Or’ (photo by Doug Seidel)

**RIGHT, TOP TO BOTTOM:** ‘Ganges Mist’, ‘Manipur Magic’, ‘Rebecca’s Choice’, ‘Naga Belle’ (photos by Viru Viraraghavan)



one plant, from which an offset was secured by Dr. N. C. Sen, an enthusiastic rosarian friend, who much later sent me a plant.

Having secured the two most tropical forms of the species, my wife Girija and I decided to try to locate the subtropical form, *R. lyelli*, on Mt. Abu. Mt. Abu is a peak rising to 1,700 m (more than 5,000 ft) elevation in the middle of the Thar Desert, Rajasthan State, western India. The only reference we could find about this species was its discovery by Mr. G. King in 1888, with no more details. We started looking for likely places by the side of streams but with no luck. Everywhere the Forest Department had planted *R. multiflora*, which added to the confusion.

After many fruitless days, we were returning disconsolately to our guest house, when the idea suddenly occurred to us to stop a farmer on his way home, and ask him if he knew of such a rose. To our surprise, he said, “yes.” Going with him in our jeep a short distance away, and then making a walk across fields, we found, to our delight, hundreds of this rose planted as field boundaries, next to a lake. More scattered plants could be seen nearer the water, and one had flowers in corymbs rather than in the solitary fashion of *R. clinophylla* itself. We recalled the great Belgian taxonomist M. Francois Crépin (1830–1903) considered that *R. lyelli* was a hybrid of *R. clinophylla* with *R. moschata*. Thus ended our search for the third form of *R. clinophylla*.

Searching for *R. gigantea* in 1990 led us to an entirely different part of the country—Manipur State, which borders Myanmar. An unexpected piece of luck was running into a scientist on the steps of the Botanical Survey of India office in Kolkata (formerly, Calcutta) who had botanized in the area. He gave us the valuable tip that *R. gigantea* could be found on the lower slopes of Mt. Sirohi at about 6,000 ft (Mt. Sirohi rises to 5,000 m elevation—about 16,000 ft). We reached Ukhrul, the nearest town, and early next morning we motored toward the steep dirt track going up to the peak. Leaving the jeep, we had walked a short







**ABOVE, TOP TO BOTTOM:** ‘Golden Threshold’ × ‘Easlea’s Golden Rambler’, ‘Telenegana Pink’ × ‘Mrs. B. R. Cant’ × (*R. clinophylla* × *R. gigantea*), ‘Rêve d’Or’ × *R. leschinautiana*

**RIGHT TOP TO BOTTOM:** ‘Patio Tea’, ‘Pat Henry’, ‘Lotus Born’ (photos by Viru Viraraghavan)

distance, when we came upon what was obviously *R. gigantea* climbing up a tall forest tree. It was peak winter—January—the dew was still frozen on the ground. There were no flowers, but plenty of large hips. Further exploration revealed many more plants, and we returned, deliriously happy at our instant success, and armed with many cuttings and seeds.

Apart from these two species, two species hybrids, made by me, have played an important role in the initiation of my program. The first is *R. clinophylla* crossed into the closely related *R. bracteata* (found in Myanmar and southern China). I have several forms of this cross, which generally exhibit much greater vigor than *R. clinophylla* itself, and, more importantly, produce flowers with much better petal texture, which is essential in a hot climate. *R. gigantea* was also crossed with *R. clinophylla* to produce a fair number of hybrids, one of which at least is proving very interesting for further work.

To come to the two lines, *R. clinophylla*-work started with a repeat-flowering seedling, F2, with the parentage of [‘Mrs. B. R. Cant’ × (‘Mrs. B. R. Cant’ × *R. clinophylla*)]. Inspired by Ralph Moore, another seedling was raised using his favorite parent, ‘Little Darling’, crossed with the (*R. clinophylla* × *R. bracteata*) seedling. Progress with this has been much easier than with the pure species.

Many different combinations have been made, incorporating various modern roses such as ‘Montezuma’, ‘Alliance’, ‘Mme. Charles Sauvage’, ‘Sunblest’, and ‘Arthur Bell’. The first releases with this gene mix were the shrub rose ‘Silver Dawn’ (which has also got the genes of the famous Van Fleet climber, ‘Silver Moon’), and ‘Ganges Mist’, a fully double pillar rose with delightfully cup-shaped blooms. One of the successes of this line is ‘Pat Henry’, a very elegant shrub rose

in pale pink, blessed with great vigor and healthy foliage. A distinctive fragrance is an added bonus, clearly the gift of *R. clinophylla*.

The other line, derived from 'Mrs. B. R. Cant' crossed with the Noisette 'Rêve d'Or' (which does so well in warmth), has produced, surprisingly, a series of dwarf, low-growing, semi-miniature Tea roses. Work on these hybrids and this line, proposed to be called "Patio Teas," is in progress.

Coming to *R. gigantea*, work was much easier as the species figures, though distantly, in the parentage of modern roses. The crucial cross which enabled the breakthrough was the cross done with the French Hybrid Tea, 'Carmosine'.

Another crucial cross was (*R. gigantea* × 'Rêve d'Or').

The 'Carmosine' cross resulted in three exquisite climbing roses with beautiful Hybrid Tea form flowers, codenamed "Cargiant 1," "Cargiant 2," and "Cargiant 3." The first is very pollen fertile and has given me many interesting seedlings. The second, with striking flowers in shades of cream, yellow, and pink, has been released as 'Frank Kingdon-Ward', who had rediscovered *R. gigantea* in Manipur in the 1950s. The third, and perhaps the most beautiful and large-flowered of all, has been released as 'Evergreen Gene', as a tribute to Gene Waering who has done so much to popularize evergreen roses in the United States.

Several varieties have emerged from the cross with 'Rêve d'Or'. The most interesting are 'Manipur Magic', with fully double, Noisette-type flowers in rich cream, like a super-vigorous 'Marechal Niel'; 'Amber Cloud', the golden version of *R. gigantea* species itself, has caught the connoisseurs' eye in several countries; and two climbers named in honor of Sir George Watt (who discovered the species in Manipur in the 1880s) and Sir Henry Collett (who found it in Burma, around the same time).

One of my favorite parents, 'Mrs. B. R. Cant', crossed into *R. gigantea*, has produced a pink, single climber of astounding elegance, registered as 'Rebecca's Choice'.

"Cargiant 1" has yielded several interesting seedlings, of which the most distinctive is 'Naga Belle', which has perfect Hybrid Tea form flowers of rich pink on







*R. laevigata* (photo by Fred Myers)

a vigorous bush with healthy foliage. This recurrent-flowering variety has done well in many different climates.

Another interesting result is ‘Golden Threshold’ with lovely single flowers of darkest yellow and beautiful contrasting coppery-brown anthers. A further development is a repeat-flowering single, in the same mould, from the cross of ‘Golden Threshold’ with ‘Easlea’s Golden Rambler’. This is more a shrub rose than a climber.

Using the hybrid with *R. clinophylla*, crossed into the found China rose “Telengana Pink” (study name), has resulted in an elegant Hybrid Tea form short climber. Further work with this is in progress.

In conclusion a word on work with *R. leschenaultiana*, a Musk rose endemic to my area, the Palni Hills of southern India (and adjoining mountains). A cross, again with ‘Rêve d’Or’, has resulted in a white, fully-double rose of the ‘Lamarque’ persuasion. Work with this is going on as also with hybrids derived from *R. laevigata*, especially *R. laevigata rosea*, which is a pink version of the species (or perhaps a species hybrid, opinions differ) from Japan.

The ultimate aim is to raise a new family of warm-climate roses with attractive evergreen foliage, capable of competing with lush tropical plants. ■