



CONSERVATION AND HERITAGE COMMITTEE - ISSUE 16, SEPTEMBER 2017

FOREWORD

Pondering that fundamental question "What is a heritage rose?", we begin with a short, lucid essay by Stephen Scanniello and conclude with the newest definition from our WFRS sponsoring committee. Peter Boyd gives us the life of Robert Brown, one of the pioneers in hybridizing from *R. spinosissima* Scots Roses. Viru Viraraghavan takes us into India's Himalayas in search of wild roses. Douglas Grant notes how roses and rose growers may be impacted, at least in the short term, by climate change. Jens Otto Pedersen's article on Danish rose gardens is a fine prelude as the rose world focuses on the 18th World Rose Convention in Copenhagen June-July 2018.

As an aside, we've been asked why some articles follow Standard-English spellings and others American-English. Simple: our policy is to honor (or honour) each author's choice. It is a big and diverse rose world, and we depend on BAON readers and friends to send us ideas for authors or subjects, or articles already-written or published, all of which will merit serious consideration. We thank our colleagues in the U.S. and New Zealand for their permissions to reprint articles in this issue.

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WHAT IS A HERITAGE ROSE ?

By STEPHEN SCANNIELLO

A heritage rose is any rose that has been around for a very long time. It's as simple as that. True, there are definitions that involve or exclude certain classes or dates, but why make this so complicated ? Often, rosarians exclude Hybrid Teas from the definition of a heritage rose. But, the first official (as per the American Rose Society) Hybrid Tea was introduced in 1867, beginning what is recognized by many as the start of modern roses. That's one hundred forty-nine years ago. . .that's old, and for me, qualifies as a heritage rose as do many of the modern hybrids from the early twentieth century.

The Heritage Rose Foundation was created in 1986 with the primary mission to preserve heritage roses and to educate gardeners of their importance and why they need to be saved. Heritage roses have survived centuries of neglect in waysides, old gardens and cemeteries. Many exist today simply because they've been treasured by nurseymen who have kept them in their inventories for generations. We find illustrations of heritage roses as far back as the 16th century and many of these are incredibly detailed enough to help us identify abandoned roses we find today.

Such is the case with the musk rose, *Rosa moschata*, an ancient species that was rediscovered in several cemeteries throughout the southern United States. The musk roses has been in cultivation since at least the 16th century. John Gerarde included it in his 1597 tome *Generall Historie of Plantes*, an herbal that described the medicinal uses of this heritage rose and many others.

Alexander Hamilton admired the roses growing in his doctor's apothecary garden, the Elgin Botanic Garden in Colonial New York City. Before he died, Hamilton proposed a rose garden for his Harlem estate, The Grange. In 2012, with the help of students from Florida Southern College, the Heritage Rose Foundation made Hamilton's dream a reality and planted Hamilton's rose garden as part of the Heritage Rose District of New York City. Included in this garden are roses from the Elgin Botanic Garden 1811 inventory. The following heritage roses, 'Champneys' Pink Cluster', 'Old Blush', and several of the found musk roses including the "Crenshaw Musk" and "Temple Musk" were included in this garden. Both the Crenshaw and the Temple musk roses were found in Richmond's Hollywood Cemetery by HRS founding members John and Marie Butler.

Heritage roses come to us with a history that is worthy of preservation, some with a story that needs to be passed on to the next generation of gardeners.

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This is the President's editorial for the Heritage Rose Foundation Newsletter of February 2017. The HRF is a non-profit established in 1986; their Newsletter has been published since 2005 (www.heritagerosefoundation.org). Steven is a many-faceted rose person: creator of the Brooklyn Botanic Garden's celebrated Cranford Rose Garden, active member of more than a half dozen American and other rose groups, author and/or co-author of a half dozen award-winning rose books, including in 2009 a favorite of the BAON editors "A Rose By Any Other Name ." He can be contacted at (stephenscanniello@gmail.com) and on Facebook.

ROBERT BROWN: PIONEER BREEDER OF SCOTS ROSES

By PETER D. A. BOYD

Horticultural Context and Early Life

Robert Brown (c.1767-1845) was a horticulturist and botanist who spent most of his life in Perthshire, Scotland but passed his last few years in Philadelphia, U.S.A. He was a partner in The Perth Nursery of Dickson and Brown and credited with being the breeder of the first 'Double Coloured Scots Roses' from wild *Rosa spinosissima* at the end of the 18th century. Robert Brown started what became an extraordinary horticultural phenomenon. [The Robert Brown discussed here should not be confused with the Scottish botanist and microscopist Robert Brown (1773-1858)].

Robert Brown lived in a period before detailed Birth and Death Certificates or Census Records existed but the present author has found a birth record for a Robert Brown who was born in Perth, Scotland, on 11 December 1767 to parents James and Catherine Alison ("Scotland Births and Baptisms, 1564-1950"). It is difficult to be certain if this is the correct "Robert Brown". However, there is supporting evidence. He died "in his 78th year"—hence, he was born c. 1767. A James Brown was a partner in the Perth Nursery of Dickson and Brown when or soon after it was established c.1766 (Penny, 1836) and this may well have been Robert's father James because it was this nursery in which, later, Robert himself became a partner.

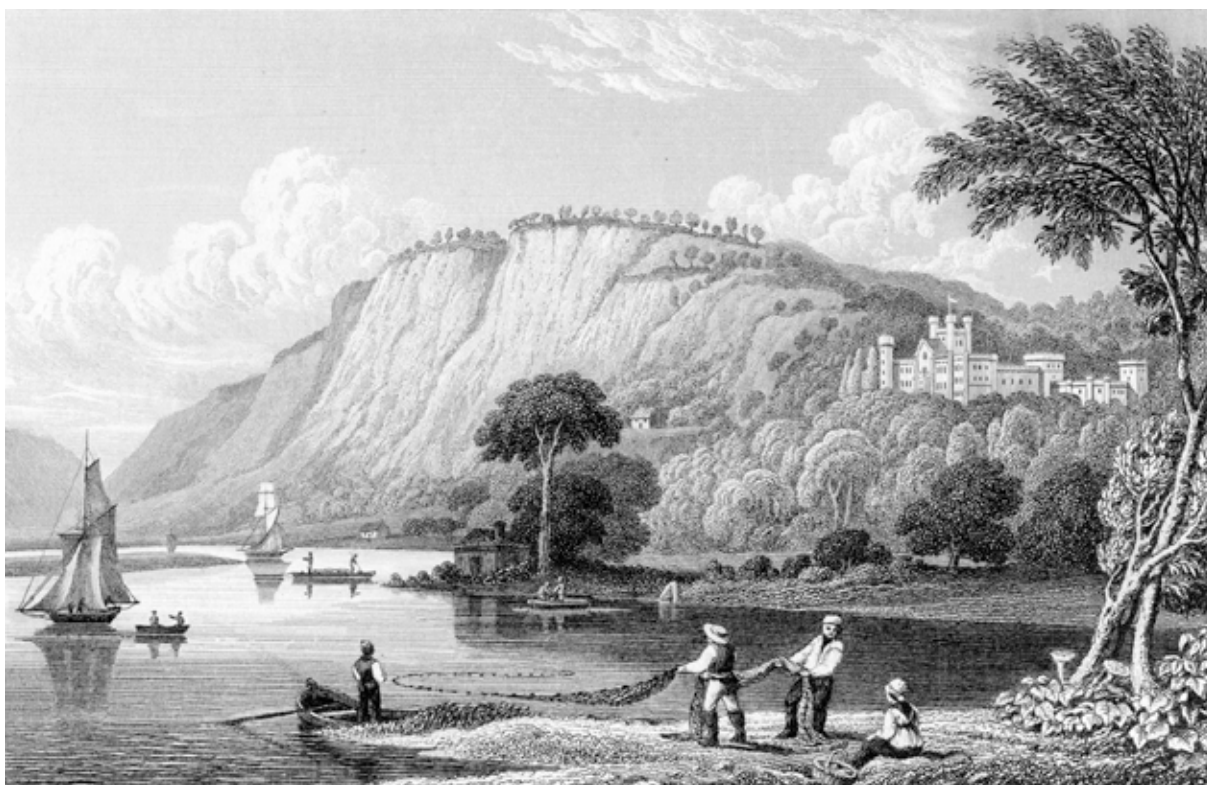
The First Single and Double Scots Roses

'Scots Roses' (capital "S" and capital "R") are natural variants, hybrids and other cultivars of *Rosa spinosissima* with a similar habit and character to *R. spinosissima* as it occurs wild in Scotland and other parts of northwest Europe. Most of them are sweetly scented. The first coloured single variant was recorded in Scotland by 1682 (Sibbald, 1682). A double white *Rosa spinosissima* was first recorded in Europe in about 1770 (Buc'Hoz, 1770) but tradition suggests that one had probably existed earlier in Scotland (McMurtrie, 1998). By about 1780, British nurseries could still only offer:

"Single White", "Double White", "Single Yellow", "Single marbled or striped" ('Ciphiana'), and "Single Red" (see 'Hortensius', 1784). Several of these were illustrated in *A Collection of Roses from Nature* by Mary Lawrance in 1799. The half a dozen or so Scots Roses available by 1799 was soon to increase to hundreds of cultivars!



Wild single white *R. spinosissima*
Photo: © Peter Boyd



Kinnoull Hill, near Perth, Scotland c.1830.

In 1793, Robert Brown (aged 25) and his brother transplanted some of the wild Scots Roses (*R. spinosissima*) from Kinnoull Hill, near Perth, Scotland, into their nursery on the lower gentle slopes of the hill, opposite the City of Perth.

One of these plants bore flowers slightly tinged with red and a seedling raised from that plant bore flowers with more petals than normal. Through a repeated process of sowing seed and selection from the seedlings, semi-double forms were obtained and they had eight good double cultivars (including seven that were a colour other than white) to propagate and sell by 1803.

Sabine (1822) determined that the eight sorts were: "Small Double White", "Small Double Yellow", "Double Lady's Blush", "Double Lady's Blush with Smooth Footstalks", "Double Red", "Double Light Red" [probably what would be called "Pink" now], "Double Dark Marbled", and "Large Double Two-coloured". Robert Brown made these cultivars available to individuals and other nurseries and they, in their turn, bred more cultivars, planting the available Scots Roses close together, allowing bees to do the cross-pollination and sowing the resultant seeds (e.g. Robert Austin of Austins and McAslan in Glasgow had bred 210 named cultivars by 1827).

Unfortunately, the present author has not been able to locate a surviving catalogue of Dickson and Brown (or Dickson and Turnbull after Robert Brown

retired) that might list the Scots Roses that they sold, so it is not known how many cultivars Robert Brown raised himself after the first eight. Forbes (1833) stated that the collection of about 260 different Scots Roses, planted in the *Rosarium Scoticum* at Woburn Abbey in Bedfordshire, England was supplied by Dickson & Turnbull of Perth. However, the list of cultivars includes roses known by the present author to have been raised by Robert Austin of Glasgow and others, so it is impossible to know how many of the other cultivars actually originated at the Perth nursery. However, Robert Brown's first double coloured cultivars became the starting point for breeding a diverse range of new cultivars with at least 500 single, semi-double and fully double cultivars being available in a wide range of colours by 1840 (Buist, 1839).

It should be noted that many of the more modern 20th century complex *R. spinosissima* hybrids (e.g. the Frühlings Series) have the taller, larger-flowered Asian variants of the species, such as 'Altaica', in their parentage. They are not 'Scots Roses' (see Boyd 2015).

Robert Brown's Other Roses

Although Robert Brown is best known for his pioneering work with Scots Roses, he also raised new cultivars from seeds of other kinds of garden roses at about the same time (c.1796). Neill (1823) states that "*He procured several seedlings of great beauty, particularly the following*" [slightly reformatted and re-ordered]:

- 'Venus' - a small double white, without prickles, "perhaps the finest rose yet produced in Britain" - raised from seed of the garden White Rose (*Rosa alba*).
- 'Duchess' - double blush, raised from 'Maiden's Blush'.
- 'Diana' - double blush, raised from 'Maiden's Blush'.
- 'Chance' - double blush, raised from double Damask (*R. damascena*).
- 'Great Mogul' - double, raised from the red Belgic (*R. damascena*).
- 'Favourite' - double, raised from 'Princess' (*R. gallica*).
- 'Flora' - double, raised from 'Princess' (*R. gallica*).
- 'Miss Bold' - double, raised from 'Princess' (*R. gallica*).
- 'Mount Etna' - dark and double, raised from the double 'Velvet', *R. gallica*.
- 'Mount Vesuvius' - dark and double, raised from the double 'Velvet', *R. gallica*.
- 'Parson' - dark and double, equal to 'Tuscany', raised from the double 'Velvet', *R. gallica*.
- 'Purple' - double, raised from crimson Dutch and Dutch hundred-leaved (*R. gallica*).
- 'Ruby' - double, raised from 'Princess' (*R. gallica*).
- 'Vagrant' - dark and double, raised from the double 'Velvet', *R. gallica*.
- 'Victoria' - dark and double, superior to 'Tuscany', raised from the double 'Velvet', *R. gallica*.
- 'Fair Maid' - pale red, semi-double, in habit allied to the blush China rose, raised from the 'Portland' or 'Crimson Monthly', *R. centifolia*.
- 'Blush-tree Burnet-leaved' - double, raised from the single Burnet-leaved [*R. carolina*], with shining or glossy leaves, and red hips.
- 'Dwarf Burnet-leaved' - double, raised from the single Burnet-leaved [*R. carolina*].

“Most of the above are very different in flower and habit from those they were raised from, and from any other roses. Mr Brown possesses a new rose of considerable beauty, raised at New Scone, and which first flowered in summer 1821. He calls it the ‘Coronation Rose’” (Neill 1823, p. 529-530).

After Retirement

Robert Brown seems to have retired from the Perth Nursery in about 1820 when he was about 53 years old. Sabine, speaking in 1820, referred to the nursery of Dickson and Turnbull as formerly Dickson and Brown (Sabine, 1822) and James McNab mentioned that Brown had been retired for about 14 years in 1834 (McNab, 1835).

After “retirement”, Robert Brown continued to roam the Scottish Highlands as he had done as a younger man, investigating its plants and geology and reading about the trees and plants of other lands. Loudon (1836) suggested that the great explorer and plant hunter David Douglas (1799-1834), who attended school in Kinnoull, Perth and who could be said to be a neighbour of Robert Brown, had been inspired by Robert Brown and his brother:

“We have now no means of ascertaining when he formed the idea of becoming a botanical traveller; but we are inclined to think it may be ascribed to his intercourse with Messrs. Robert and James Brown [Robert’s brother?] of the Perth Nursery, both of whom were good British botanists, and so fond of the study as annually to devote a part of their time to botanising in the Highlands. Hence their excursions were often the subject of conversation, and, from hearing them recount their adventures, and describe the romantic scenery of the places they had visited in search of plants, he probably formed the resolution of imitating their example”.

However, David Douglas explored North America for new plants 1823-1827 (Douglas, 1914) and tales of *his* adventures and plant discoveries no doubt encouraged Robert Brown to undertake a horticultural tour of the United States and Canada himself. In 1834, Robert Brown (then aged 67) had asked the young botanist and horticulturist James McNab (aged 24) to accompany him. McNab maintained a journal during their seven month tour (May to December 1834), providing an account of the difficulties of travel by sea, land and river at that time, critiques of the American plant nurseries (including those of Prince and Hogg in New York) and the adventures of these two plant explorers in the wilds of North America. In a partial account of that tour (1835), he wrote that:

“The primary object of the Tour was to gratify the taste of Mr Robert Brown, who, for a long series of years was an eminent nurseryman in the neighbourhood of Perth, and who, after his retirement from business, felt a strong inclination to visit America. Mr Brown is a gentleman well known in the horticultural and agricultural world, from the many valuable acquisitions to the garden and the field which he has been the means of introducing. The admirers of double Scots Roses may be reminded, that these roses were first raised and brought into notice by him”.

Robert Brown's obituary in the *Gardener's Chronicle* (8 November 1845) enlarged upon Brown's reasons for the tour:

"After retiring from business, Mr. Brown evinced the same activity and zeal for his favourite pursuits as he did in his younger days, his leisure time having been much occupied in perusing such American works as touched on the botany of that vast country; and as he had long been a most zealous and successful cultivator of those plants peculiarly designated as American, he, in order to reach the acme of his ambition, although in his 65th year [actually 67th], set sail for America, to indulge himself for a season with a sight of his favourites in their native forests and prairies".

Robert Brown's companion, James McNab was the son of William McNab (Superintendent of the Royal Botanic Garden Edinburgh) and, later, James succeeded to the post from his father. See Boyd, 2009 for a biography of James McNab [a.k.a. MacNab or M'Nab]. Among many plants that James McNab and Robert Brown took back to Scotland was 'Hogg's Double Yellow' ("Rosa Hoggii") described by Don in 1838. 'Hogg's Double Yellow' was clearly a *Rosa* x *harisoni* cultivar (*R. spinosissima* x *R. foetida*) and may be a synonym of 'Harison's Yellow' (see Boyd 2016 for further discussion). Hardy (2011) has summarised the itinerary and results of the Tour.

Emigration

After three years back in Scotland, Robert Brown returned to North America, immigrating to Philadelphia, Pennsylvania, in the United States in about 1837, at the age of 70 years. It is not clear why he chose Philadelphia but perhaps it was because there were other expatriate Scots there, including the nurseryman and author Robert Buist who, writing about Robert Brown two years before Brown's death, stated that:

"He still lives in the enjoyment of all his faculties, retaining at his advanced age much of his former originality of mind, and to him I am indebted for the communication of many practical facts, the result of his long and valuable experience" (Buist, 1844).

Robert Brown died in Philadelphia in September 1845. The present author discussed aspects of Robert Brown's life and death in Boyd (2016) where he quoted what appeared to be a hand-written copy of an epitaph or draft epitaph to Robert Brown that he had found (unlabelled) in a cuttings book in the Royal Botanic Garden Edinburgh Library:

"Sacred to the memory of Robert Brown, native of Perthshire, Scotland, who departed this life on the 21st September 1845, in the 78th year of his age. Mr Brown was long and favourably known in the Horticultural and Agricultural World. To the first he contributed the double-flowering Scots Rose, and the Scarlet-flowering Thorn. To the second the Swedish Turnip, which he was the first to introduce into Britain, whence it rapidly spread into other countries. The Scientific Botanist is indebted to him as the original discoverer of the Menziesia [now called Phyllodoce] caerulea, and the other rare natives of the Scottish Alps. In his 70th

year he arrived in this Country, locating himself in the vicinity of Philadelphia, where the affability of his manners, and the fervency and sincerity of his affection secured him many friends, who fully appreciated his scientific attainments, and who have indulged their predilections by erecting this humble monument to his memory”.

The present author was keen to know if this epitaph was on a physical monument that had existed or still exists and, if so, where in or near Philadelphia. The cuttings-album in the RBGE archives did not identify the original source of this text. It seems likely that it was written by someone in Philadelphia (perhaps Robert Buist) and a copy sent to Edinburgh in 1845 where it was transcribed into the album or it was originally composed by James McNab. It is written on a page below a newspaper cutting with an obituary of Brown from the *Fife Herald* (*Fife Herald* 4 November 1845, p. 240), previously published in the *Edinburgh Courant*.

The obituary in the *Edinburgh Courant*, reproduced in the *Fife Herald*, states that Robert Brown: “ ... located himself in the neighbourhood of Philadelphia, where he died on the 20th of September last, after a week’s illness, at the advanced age of 78; his remains were interred in the cemetery of that city”.

The transcript of the epitaph quoted above gives the date of Robert Brown’s death as the 21st, not 20th September as given in *Fife Herald*, *Edinburgh Courant* and *Gardener’s Chronicle* but what appears to the original record of his death in Philadelphia gives the date of his death (or perhaps the death certificate) as 22nd September. The ‘death certificate’ signed by G. Watson M.D. gave the cause of death as “Bilious Fever” (Pennsylvania, Philadelphia City Death Certificates, 1803-1915). The term “Bilious Fever” was often applied to typhoid at that time. Dr G. Watson, who signed the death certificate, was probably a friend of Robert Brown as well as his doctor. He was a member of the Pennsylvania Horticultural Society and occasional correspondent for *The Magazine of Horticulture*. The Death Certificate gives the burial as being at “Philadelphia Cemetery” but the original cemetery no longer exists. Ronaldson’s Cemetery (founded by a Scot in 1827) on 9th and Bainbridge Streets, was also known as the Philadelphia Cemetery.

The present author has recently been able to identify Robert Brown’s grave with certainty through an account of inscriptions of gravestones in that cemetery in 1926 - although much of the inscription had deteriorated and become illegible by that time:

“Sacred / to the memory of / Robert Brown / Native of Perthshire, Scotland / who departed this life / September 21st [?] 1845 [?] / in the 78th year of his age” followed by “a lengthy but much obliterated epitaph to the effect that Robert Brown was an able contributor to the Horticultural and Agricultural world. Introducing to the first, the Scarlet flowering Thorn and other rare products of the Scottish Alps, and to the second, the Swedish Turnip” (Gravestone Inscriptions in Ronaldson’s Philadelphia Cemetery, 1926, p. 264). This was enough to identify

Robert Brown's grave positively and confirm that the text discovered in Edinburgh was a copy of an actual epitaph.

The remains of Robert Brown were "at rest" in Ronaldson's Cemetery for 105 years. However, in 1950, the 13,500 inhumations in the Ronaldson's Cemetery were removed and most were transferred to Forest Hills Memorial Park on the outskirts of Philadelphia ('Find a Grave' website: <http://www.findagrave.com>). A few inhumations had been transferred by living relatives or others to other cemeteries but the majority went to Forest Hills. The site of Ronaldson's Cemetery is now occupied by Palumbo Playground which includes a children's play area, 2 basketball courts, sports fields, etc. An unscrupulous businessman paid by the Local Philadelphia Authority to carry out the transfer and reinter the identified individual remains in individual graves with individual plaques in 1950 did not fulfil the contract as required (Shaw, 1988). Although he did indeed transfer the remains to Forest Hills Memorial Park, they were placed into a mass grave and the Ronaldson family obelisk from Ronaldson's Cemetery re-erected to mark the mass grave. All the other original gravestones or monuments at Ronaldson's Cemetery were dumped or destroyed!

Sadly, the remains of Robert Brown are among those of 13,500 people in the mass grave. The present author has considered the possibility of commissioning a new memorial to Robert Brown on this site or elsewhere in Philadelphia, if the money could be raised. The current management of Forest Hills Memorial Park has told him that they would allow a new memorial to Robert Brown to be erected on the site of the mass grave.

A Lost Resource of Robert Brown's Scots Roses at the Perth Nursery

Nearly 30 years after Brown's death, in 1874, James McNab (Robert Brown's companion on the North American tour) visited the Perth Nursery (McNab, 1874). He wrote that:

"The nursery grounds of Messrs Dickson & Turnbull, at Perth, have long been well known to cultivators. They were established in 1766, and from them have emanated many new and useful plants. Amongst flowering plants may be mentioned the first set of double Scotch roses, which were so much in fashion about forty years ago, but which are now, I regret to find, scarcely ever asked for. The original stools of these roses still exist, capable of producing many thousand plants should they be required. These roses were admirably adapted for the climate of Scotland, and if they were again taken in hand by our southern friends, and received a little of the attention paid to other garden varieties by hybridisation, a new stock might be procured suitable for this country".

Much of the original site of the Perth Nursery was subsequently developed for new housing, so presumably those valuable 'original stools' (stock plants) were lost. Although Scots Roses may still be found growing in the older gardens of Perthshire, elsewhere in Britain and other parts of the world, they are often 'grubbed-out' when the properties change ownership, through ignorance of their

beauty in flower and their heritage significance. Some of these roses may have originally come from the Perth Nursery.



A good double pink Scots Rose from an old garden in Scotland, possibly one of Robert Brown's 'lost' cultivars! Photo: © Peter Boyd

The Scots Rose Legacy of Robert Brown

Although, apparently, Robert Brown was only responsible for raising a relatively small number of Scots Rose cultivars himself, he was responsible for initiating the phenomenon in which at least 500 cultivars were raised within 40 years (most within the 1815-1830 period) followed by a 'crash' in commercial availability through change in fashion, the increase in popularity of new repeat-flowering roses and the death of the champions of Scots Roses (e.g. Robert Austin died in 1830).

There were more named cultivars of Scots Rose in commerce by 1840 than all the other main groups of roses (Albas, Gallicas, Centifolias etc.) put together (Buist, 1839). How erroneous it is that many books or articles on the history of roses ignore the phenomenon of Scots Roses completely but would not omit Gallicas, Centifolias, Damasks or Albas.

Although they declined in commerce, Scots Roses continued to be distributed by individuals within communities and to parts of the world where 19th century Scottish and Scandinavian immigrants, in particular, carried them as living reminders of home (see Boyd, 2016 etc.) The Rise and Decline of the 'Scots Rose' Phenomenon c.1800-1860, as a whole, is explored in more detail elsewhere (Boyd, in press and forthcoming).

* * *

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Sources

- Anonymous. (1845). The late Mr. Brown, of Perth. *Gardener's Chronicle*. (8 November 1845). Archives of the Royal Botanic Garden Edinburgh.
- Austins and McAslan (1827) *Catalogue of Double Scotch Roses raised from Seeds and cultivated by Austins & McAslan Nursery & Seedsmen Glasgow*. From the Benyon Papers in the Berkshire Record Office (Berkshire Record Office Catalogue Ref. D/EBY).
- Barker, Charles R. (1926) *Gravestone Inscriptions in Ronaldson's Philadelphia Cemetery*, reprinted from the publications of The Genealogical Society of Pennsylvania 1926.
- Boyd, P.D.A. (2009) "McNab, James (1810-1878), horticulturist and botanist". *Oxford Dictionary of National Biography*, online edition, Oxford University Press, May 2009
- Boyd, P.D.A. (2015) Scots Roses and Related Cultivars of *Rosa spinosissima*: A Review. *Proceedings of the VIth International Symposium on Rose Research and Cultivation Hannover, Germany, August 25-30. Original online at: www.actahort.org*
- Boyd, P.D.A. (2016) "Shared Transatlantic Heritage of Scots Roses--Icons of cultural identity", *Proceedings of Trans-Atlantic Dialogues on Cultural Heritage: Heritage, Tourism and Traditions International Conference, Liverpool, July 13-16 2015 <https://independent.academia.edu/PeterDABoyd>).*
- Boyd, P.D.A. (in press) The Rise and Decline of the 'Scots Rose' Phenomenon c.1800-1860. *Proceedings of the VIIth International Symposium on Rose Research and Cultivation Angers, France, July 2-7, 2017.*
- Boyd, P.D.A. (forthcoming) *Scots Roses, "Rosa spinosissima and other Pimpinellifolias"*. To be published by the Royal Horticultural Society in association with the Royal Botanic Garden Edinburgh. See <http://www.peterboyd.com/scotsrosesbook.htm> for further details.
- Buc'Hoz, Pierre-Joseph (1770) *Dictionnaire universel des plantes, arbres et arbustes de la France*.
- Buist, Robert (1839) *The American Flower Garden Directory*. 2nd Edition.

- Buist, Robert (1844) *The Rose Manual including accurate descriptions of all the finest varieties of Roses*. Philadelphia. For the author and Messrs. Carey and Hart.
- Don, D. (1838) *RÒSA lutea; var. Hóggii* In Sweet's *British Flower Garden*. Vol. IV. 410.
- Douglas, David (1914) *Journal kept by David Douglas during his travels in North America 1823-1827*. William Wesley & Son, London.
- Forbes, J. (1833) *Hortus Woburnensis*.
- Hardy, Graham (2011) "To get those plants ...likely to prove interesting at Edinburgh" : Robert Brown of Perth and James McNab's North American tour of 1834. *Sibbaldia: The Journal of Botanic Garden Horticulture*, No. 9.
- Hortensius (1784.) *The English Garden Displayed, The Lady's Magazine; or Entertaining Companion for the Fair Sex*,. Vol. XV, for the Year 1784. London: G. Robinson, No.25
- Lawrance, Mary (1799) *A Collection of Roses from Nature*.
- Loudon, J.C. (1836) Biographical Notice of the late Mr. David Douglas. *Gardener's Magazine* 1836.
- Loudon, J.C. (1838) Nurseries in Scotland. In *Arboretum et Fruticetum Britannicum*. Vol. I.
- McNab, James (1835) *Tour through part of the United States and the Canadas; being the extended journal kept while travelling in company with Mr Robert Brown, formerly of the Perth Nurseries*. Edinburgh.
- McNab, James (1874) Notes on a Visit to Messrs Dickson & Turnbull's Nurseries, Perth *Transactions and Proceedings of the Botanical Society* Vol. XII. Edinburgh. (1876)
- McMurtrie, Mary (1998) *Scots Roses of hedgerows and wild gardens*. Garden Art Press.
- Neill, Patrick (1823) List of some New Roses, raised by Mr Brown of New Scone. Appendix No. III, *Journal of a Horticultural Tour through some parts of Flanders, Holland, and the North of France, in the Autumn of 1817, by a deputation of the Caledonian Horticultural Society*.
- Penny, George (1836) *Traditions of Perth*. p.268.
- Philadelphia City Archives and Historical Society of Pennsylvania, Philadelphia; FHL microfilm 1,906,182 "Pennsylvania, Philadelphia City Death Certificates, 1803-1915," database with images, *FamilySearch* <https://familysearch.org/ark:/61903/1:1:J689-P61>
- Sabine J. (1822) Description and Account of the Varieties of Double Scotch Roses, cultivated in the Gardens of England. *Trans. Hort. Soc. London* 4:281-305..
- "Scotland Births and Baptisms, 1564-1950," database, FamilySearch, Robert Brown, 11 Dec. 1767; citing PERTH, SCOTLAND, reference ; FHL microfilm 1,040,383.
- Shaw, Donna (1988) A tale of 47,000 bodies, final resting place unknown. *Philadelphia Inquirer*, October 9, 1988.
<http://freepages.genealogy.rootsweb.ancestry.com/~buckscounty/cemeteries/Lafayette%20&%20Franklin%20Cemeteries.txt>
- Sibbald, Robert (1684) *Scotia Illustrata*.

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The editors strongly urge readers to look up this article when it appears on Peter Boyd's website as it will contain additional relevant material.

WILD ROSES IN INDIA AND THE HIMALAYAS

By VIRU VIRARAGHAVAN



The Himalayas, Asia's greatest mountain chain with the world's highest peaks, stretches for 2,250 kilometers from east to west through the extreme north of India, as well as its neighbouring countries of Pakistan, Nepal, and Bhutan. The Himalayas are where most of India's wild roses are located. The distribution of these roses is significantly linked to the extreme variations in the Himalayan climate, from alpine deserts in the far west to Cherrapunji in the Khasi Hills in the eastern end, with the world's heaviest rainfalls.

The non-Himalayan roses species include *R. gigantea* found most prominently in Manipur, *R. longicuspis* found in the Khasi Hills, as well as in certain parts of the eastern Himalayas, *R. clinophylla* in the Rajmahal Hills and the Chota Nagpur Plateau in Bihar State but also in many other places in the country. *R. leschenaultiana* is the only other non-Himalayan species, found in the Nilgiri and Palni ranges of south India which are part of the Western Ghats, a mountain range running north to south along the west coast of India for a length of over 1,000 kilometers.



We will now consider the various rose species to be found in the Himalayas and the rest of India. The treatment is from the horticulturalist's point of view, and taxonomic details are kept to the minimum.

R. Webbiana



R. webbiana is the typical inhabitant of the semi-arid Western Himalayas. It is a shrub, reaching up to 2.5 metres with slender branches and straight prickles, leaves with small rounded leaflets and prickly leaf stalks. The flowers are borne in clusters of one to three. It is a rose of unique, even fragile beauty with lilac pink to dark pink flowers, contrasting admirably with the rugged rocky terrain of the region.

To quote Jack Harkness, it “might be called the Fairy Queen of the wild roses for its sweetness and grace. The plant grows about head high, and trails its older shoots down to the ground, all neatly in the shape of a graceful lady in lacy crinolines. Lace is the right word too for an impression of the tiny leaves and dark twigs. The little flowers are all delicacy in their pink petals and discreetly attractive perfume. Finally, the hips adorn the bush in the Autumn, in the shape of ewers held upside down. They are not large, for nothing about *R. webbiana* is aggressive; their size is sufficient to attract notice and hold admiration.”

The book “The Family Rosaceae in India” by Ghora and Panigrahi refers to two additional varieties of *R. webbiana*, namely *R. webbiana* var. *glandulosa*, a variant with red flowers found on the edges of the alpine zone in Kashmir, and *R. webbiana latifolia*. Field studies are required to confirm the existence of these varieties at the present time.



***R. webbiana* – lilac form**

R. macrophylla

R. macrophylla is one of the largest-flowered and most striking coloured of the Himalayan rose species, with flowers ranging from dark pink to almost red. It forms an upright shrub reaching up to five metres with dark red or purple stems.

We had a dramatic introduction to this magnificent rose in 1982, when climbing the footpath to the Valley of the Flowers, an alpine valley in the Central Himalayas at around 2,700 metres elevation. Walking around a bend in the path, we were attempting to cross the ice cold waters of the River Pushpganga when we saw the reflection in the waters of its beautiful red flowers—a stunning sight indeed. It was a huge bush, covered with blooms. The famous botanist J. D. Hooker called it “the great red rose, one of the most beautiful Himalayan plants, whose single flowers are as large as the palm of the hand.”



Ghora and Panigrahi refer to three additional varieties of *R. macrophylla* in India. Apart from *R. macrophylla* itself, where the petals are pink to red, *R. macrophylla* var. *hookeriana* with pink to white petals, var. *minor* and var. *arguta* are mentioned. Here again contemporary field studies are required.

R. brunonii

R. brunonii is the typical musk rose of the Himalayas, forming enormous climbing bushes at fairly low altitude, around 1,200 to 2,400 metres, with hooked prickles and terminal clusters of many fragrant white to cream flowers. These are borne in tremendous bunches with that enchanting capacity of the musk rose, noted by the great rosarian Graham Thomas, of wafting its



fragrance in the air. The foliage is also very handsome in some forms, especially the well-known *R. Brunonii* 'La Mortola' where the leaves are a striking grey green. We saw many bushes of *R. brunonii* on our 1982 trip, on the same footpath to the Valley of Flowers at 1,800 metres.

R. sericea



This is the oft-seen rose of the higher reaches of the Himalayas, quite widespread in distribution. It is a stiff erect shrub with leaves with small leaflets and solitary white to cream flowers. The plants can reach heights in excess of four metres. On the same route to the Valley of the Flowers we could see bushes in large numbers, but only above 3,000 metres. It has the unique distinction of being four-petalled. The large-sized prickles, red and partly translucent, are a very attractive feature of the form *R. sericea pteracantha*.

R. longicuspis

This is another musk rose in the eastern Himalayas. We found it on the sides of a ravine on Shillong Peak in the Khasi Hills, at around 2,300 metres altitude. It is an extensive climber, reaching well over ten metres, with clusters of white flowers with a trace of pink and the most beautiful foliage, elongated and a shining dark green.



R. gigantea

This is perhaps the largest of all wild roses with the most extensive growth, up to 20 metres, the giant stems thicker than a man's arm, very large flowers up to 15 centimetres across, and big round hips 2.5 cm across. The numerous prickles are also of giant size.

The five-petalled flowers are quite a deep yellow when opening, fading thereafter to ivory and cream. The yellow pigments seem dominant in the plant, as even the hips ripen to yellow rather than the more usual orange red. The hips, considered a local delicacy, are sold along with other vegetables and fruits in the bazaars in north-east India. We found this plant at around 2,200 metres on the footpath to Mount Sirohi, east of Ukhrul town in Manipur State, climbing into trees which is their normal pattern of growth.

Sir George Watt, Surveyor-General of British India, who first discovered this rose in 1882, remarked that the flowers of the rose climbing through forest trees looked like golden magnolias when seen from a distance. I like to think that the specimen we found was the same that Sir George Watt first spotted! Although he was the first to discover this species in Manipur, the name *R. gigantea* was first published by Sir Henry Collet, through François Crepin. Collet found the plant in the Shan Hills in Upper Burma (now Myanmar).

There has been some speculation as to whether there is any genetic difference between these two finds, rising out of the fact that the buds and flowers of *R. gigantea* Collet are white, whereas plants from Manipur, to which their discoverer George Watt gave the name *R. macrocarpa*, have flowers which tend more towards a creamy yellow, especially in the bud stage. The locations where the rose was found in Manipur is about five degrees further north and its altitude around 500 metres higher than that of the Burma specimen, which again may or may not be significant.



Interestingly, seedlings raised from seed collected in Manipur in the wild show considerable variation in colour, especially in the bud stage. Some of the plants bear buds of quite a dark shade of yellow, whereas others are white. But these variations disappear at the fully open stage, when the flowers are cream. This, perhaps, indicates that speculation on whether the Manipur and Burma forms are genetically different is premature in the absence of DNA studies. Crepin himself considered the two to be the same rose. But we can hope that the Manipur type is at least marginally more cold tolerant.

A feature of this rose, apart from the flowers, is the lovely foliage, evergreen but a compelling shade of bronze as it unfolds, maturing to a shining dark green, absolutely free of blackspot or mildew. In my garden in Kodaikanal in south India, *R. gigantea* has climbed the cypress trees, which are quite tall, 15 metres or more, and in the flowering season—which extends from November to February—it makes a very attractive display indeed.

R. clinophylla

In many ways *R. clinophylla* is one of the most distinctive of wild roses. First of all it is perhaps the only tropical wild rose, found in India in places as far apart of the north-eastern states like Manipur and in the Kaziranga Wildlife Sanctuary in Assam, in Bihar near Ranchi, in the Simlipal Wildlife Sanctuary in Orissa, on the Eastern Ghat mountains, in the border areas between Andhra Pradesh and Orissa, as well as in Karnataka State in south India.



Sir George Watt has commented on how typically the species appears in fairly large numbers in restricted localities, but thereafter is nowhere to be seen for hundreds of kilometers, where conditions are apparently quite similar, and then it appears again quite suddenly.

The species is an upright semi-climbing bush, reaching four to five metres with five-petalled white flowers and prominent golden anthers with the distinctive fragrance of acetone—nail polish remover! Another unusual feature of this species is the fact that it is semi-aquatic and favours locations like the islands of the Ganges, which are submerged under the flood waters for six months in the year leaving only the tops of the plants visible, and on the banks of streams.

There is an interesting account of the discovery of this rose by an Englishman, appropriately named Mr. Rose, who was the Superintendent of Post Offices in British India and who, while travelling in the course of his official duties by boat

during the flood season, saw a rose coming out of the water. He collected the flower and some seeds, which later were identified as *R. clinophylla*.

We have grown it along with water lilies in our garden. But the ideal location is where the plant is periodically inundated by flood waters which recede now and then. We also have two clones of this rose, one collected by my friend, Mr. Narender Singh of Ranchi. He was on a hunting trip and had camped by a stream's edge. Early the next morning, just as the sun was rising, he saw to his amazement white roses at the water's edge.



The other form is the Bengal one, originally collected by the well-known Bengali horticulturalist, Mr. Shivaprasad Bannerjee, from an island in the River Ganges which branches off from the River Padma near Murshidabad in West Bengal. This species was carefully preserved by the late Dr. N. C. Sen, and at that time was probably the only plant in cultivation.



The third form, also called *R. lyelli*, is found in the lower Himalayas around Kumaon in Nepal, and on Mount Abu, a hill station at about 1,200 metres in Rajasthan, western India. We were able, after much searching, to locate this plant growing in Oriya Village on Mount Abu at virtually the same place where it was originally discovered by G. King in 1888. It differs from the eastern India forms in bearing its flowers in corymbs rather than singly.

From the taxonomic point of view, Ghora and Panigrahi indicate that apart from the type species, *R. clinophylla* is found in two other varieties: *R. clinophylla* var. *glabra* and *R. clinophylla* var. *parvifolia*, where the leaflets are glabrous on both sides, unlike the typical form where the leaflets are tomentose and woolly beneath. According to this authority, var. *glabra* has flowers up to 5.5 cm across, whereas in var. *parvifolia* the flowers are 2 cm across, much smaller, and the leaflets, as can be imagined, are just as small. The flowers of the typical *R. clinophylla* are between in size.

As regards *R. lyelli*, which is treated as a separate species by taxonomists, the most



striking differences are the prickles which point downwards, and the flowers are produced in corymbs three to seven together unlike the solitary flowering habit of *R. clinophylla* which has prickles pointing upwards. The great taxonomist M. François Crepin was of the opinion that *R. lyelli* is a hybrid of *R. clinophylla* with *R. moschata*, in which he included the Himalayan *R. brunonii*.

A word on the hips of *R. clinophylla*. These are round and wooly (tomentose) outside and quite light-weight, confirming that their distribution is via flowing water, which corresponds to the typical flood plain habitat. The shining evergreen foliage as well as the involucres which surround the buds are a feature of *R. clinophylla*. This species is closely related to *R. bracteata*.

R. leschenaultiana

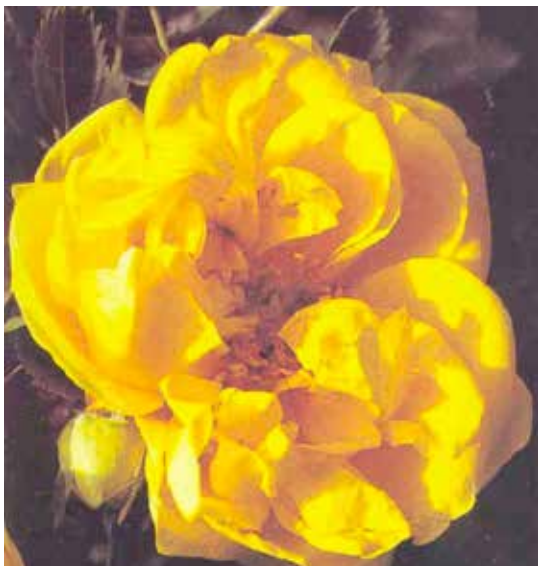


This rose species, one of the southernmost representatives of the musk rose clan (its alternate name is *R. moschata leschenaultiana*) is endemic to the Nilgiris and Palni Hills, which are part of the Western Ghats Range. It is a heavily armed straggler reaching up to ten metres, forming impenetrable thickets in native forests. The flowers are quite large by musk rose standards and very showy (7.5 cm wide). A distinctive feature are the purple stems. This species is named in honor of the French botanist Leschenault de la Tour, who travelled in India c. 1816-1822, collecting many plants to send to the Isle of Reunion and to mainland France.



R. ecae

So far I have dealt with roses which are typically to be found in India, but there are several others, for which the Himalayas and India may not be their centre of distribution but where their provenance extends into our country. One such rose is *R. ecae*, the typical Golden Rose of Afghanistan, found also in Kashmir and Ladakh. This is a wiry bush with flowers of a most attractive shade of bright yellow.



R. foetida

Kashmir and the higher reaches of Himachal Pradesh are also home to the Golden Rose of Persia, *R. foetida*. The double flowered mutant of this rose *R. foetida Persiana* is, as you may know, in the ancestry of most of the golden and bicoloured roses of today, thanks to the pioneering work of the great French hybridist Pernet Ducher. Apparently, *R. foetida Persiana* may be a natural mutant, as Mr. Luciano Arcangeli reported sighting several plants in completely uninhabited areas in the extreme northern Himalayas, where a possible natural mutant with cerise red to crimson red flowers is also found.

R. laevigata

This is probably an introduced rose as it is native to southern China. It is one of the most beautiful of wild roses with large (up to eight cm) white flowers with prominent golden anthers, with perhaps the most beautiful of all rose foliage: trifoliate and a lovely shining green. A very healthy plant which is widely adapted to even the conditions of the plains of India, thriving in places like Kolkata and New Delhi. And curiously enough, it has become widely naturalized in the south of the United States.



R. banksiae

This again is an introduced rose native to southern China but well-adapted to Indian conditions. In the Himalayas it is common in gardens near towns like Shimla and is a very popular plant in the Palni Hills and Nilgiri mountains of south India. It is an extensive climbing shrub capable of reaching roof tops. The branches are unarmed. There are two forms which are common: *R. banksiae* var. *banksiae*, with double white flowers and violet scent and *R. banksiae* forma *lutea* with clear yellow flowers.



***R. moschata* (*R. glandulifera*)**

A fairly common cultivated rose in India, perhaps introduced by the Mughals, this is the true *R. moschata*, as distinct from *R. brunonii*, the musk rose of the Himalayas. This was known in the past as *R. glandulifera*.



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R. indica semperflorens

This is the ever-blooming form of *R. chinensis*, called *R. Chinesis semperflorens* ('Slater's Crimson China'), which is commonly cultivated in Indian gardens. Some authorities consider that this rose has been cultivated in India for several centuries. Giant bushes could be found growing almost wild in the past. A Mrs. Gore whose "The Book of Roses: A Rose Fancier's Manual" of 1838 (which seemed to draw heavily on Monsieur Boitard's book of 1836, "Manual Complete") wrote : "in vast thickets of the beautiful *Rosa semperflorens* (a native also of China) the tigers of Bengal and crocodiles of the Ganges are known to lie in wait for their prey."



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In addition to the species mentioned above, Ghora and Panigrahi list the following as also to be found in the Himalayas : *R. rubiginosa* (*eglanteria*), *R. nanothamnus*, *R. beggeriana*, *R. hemispherica*, *R. platyacantha*, *R. souleana*, *R. bracteata*. But, as I noted earlier, while these roses occur here, the Himalayas cannot be considered to be the centre of their dissemination, and so I must forgo dealing with them.

In conclusion, it should be stressed that fieldwork on the present status of rose species in the Himalayas is conspicuously lacking. There is every need to undertake these studies before the progress of civilization wipes out genetic diversity. Those who have the good fortune to look at our wild roses in the great mountains of this country will easily realize why I call them the "Aristocrats of the Rose World."

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Viru and Girija Viraraghavan are famed world-wide among rosarians for their extraordinary rose collection and the extensive gardens at their home in Kodaikanal, a hill station in the mountains of Tamil Nadu state in southern India. They have held almost every elected position in the India rose world, and both write extensively for international rose journals, including several earlier issues of BAON. See as well our recent issue #13 (December 2015), where in "A Rose Garden in the Indian Skies" rose journalist Mia Gröndahl gives a lovely personal account of visiting them and their garden. This was first given as a PowerPoint presentation at the Chaalis Heritage Rose Conference in 2007 and subsequently published as an article with B&W photos in the New Zealand "Heritage Roses" Journal of March 2009, from which this article has been slightly revised and edited.. The editors owe special thanks to Becky Hook for all the technical support she provided for this piece.

THE INFLUENCE OF CLIMATE CHANGES ON FUTURE ROSES

By DOUG GRANT

The concepts of climate change and global warming are very much in the news. Here are my thoughts on this topic and how it will influence rose culture from the viewpoint of a plant scientist.

The New Zealand Ministry for the Environment tells us the earth's atmosphere is made up approximately (by volume) of 80% nitrogen, 20% oxygen and a small proportion (0.035%) of greenhouse gases. These gases act like the covering over a greenhouse. They trap the sun's warm air in and stop too much heat from escaping to avoid freezing. We are told that increasing the level of greenhouse gases would cause the earth to heat up and the climate to change.

The past 150 years of human activity has been blamed for changing the climate. The result has been an increase of greenhouse gases and more extreme climate events such as floods, storms, droughts, etc. This used to be called "global warming" until we had some cooler years and now it is referred to as "climate change." The greenhouse gases that have increased are stated to be carbon dioxide, methane and nitrous oxide.

Impacts from climate change include: higher temperatures, changes in rainfall, extreme weather events such as floods and droughts, changes in wind patterns, a rise in sea levels and an increase in carbon dioxide levels.

Temperature levels are expected to rise by approximately 1°C by 2050 and by 2°C by the end of this century. How will this affect the rose? It is a known fact that increasing temperature increases plant growth. With warmer springs, roses will be flowering earlier, growth will start earlier and there will be a longer growing season. If you are in the frost zones, frost damage will be reduced. Less snow levels in the high altitude areas will only affect the skiers not the roses.

The consequences of earlier spring growth will be earlier rose shows, a longer growing season, more colour in the garden for a longer period of time, less frost damage and more roses grown in marginal areas. There will not be much of a change in the levels of fungal pathogens as they operate within a specific band of temperatures; the diseases will start in an earlier time slot. Mulching for the warmer summer period will be more critical. Varieties with blooms that burn in the heat may increase, but I do not imagine this to be an issue as these should be selected against by breeders and nurserymen.

What about rainfall? In New Zealand, we have been told to expect a change in rainfall patterns with a higher rainfall in the west and less in the east. As a consequence this means more floods and droughts. For as long as I can remember we have always had floods and droughts with some years worse than others and some years nothing. Most rosarians and gardeners are generally adapted to cope with this. The basic principles are drainage for surplus water and irrigation and mulching for a shortage of water.

If your garden is in a low-lying area and subject to flooding there are options such as raised beds and other drainage operations to reduce water ponding. An increase in rainfall over the summer periods could result in higher humid conditions. In the Auckland region of New Zealand, with the highly humid climate, we usually experience these conditions with a couple of drizzly days in January and a couple in February every year (our summertime), even in the middle of a drought. If our summers become too dry, we have the option of turning growth of our rose plants off and giving them a summer rest period followed by a summer prune. Afterwards this growth kicks back into action in time for the autumn flowering. Also in drier seasons with an decrease in humidity some of the wet weather fungal pathogens will be less prevalent. Nice for rosarians and less spraying too!

Winds are a factor in climate change which is supposed to bring on an increase in the frequency of strong westerly winds in the south. Rosarians are already programmed to combat windy conditions by creating or adding sheltered conditions to their gardens, staking plants and nipping back basal shoots as they occur. The consequences of extra wind are that choice of variety may change to something which is less tall or that which has stronger canes.

Sea level change or a rise in the sea level is expected with increasing temperatures, owing to the expansion of water and melting of ice. The sea level rise is a coastal problem and rose plants are not that comfortable growing in coastal areas. They really do not like salt winds burning their foliage. Coastal gardeners may need to attend to or look at retaining walls around a garden.

Carbon Dioxide (CO₂) is a naturally occurring non-toxic gas which is part of the atmosphere (it is poisonous to life only when it replaces the oxygen that living beings breathe.) It is the primary greenhouse gas emitted through human activities, such as the burning of fossil fuels. The United States Environmental Protection Agency (EPA) reported that in 2013, CO₂ accounted for about 82% of all American greenhouse gas emissions from human activities. Most of these emissions were from electricity generated through burning coal.

To me as a plant scientist, carbon dioxide is very important for plant growth. It is a major component of both photosynthesis and plant respiration. However, you may have noticed it is difficult to have a climate change expert acknowledge this. Photosynthesis put simply is the process where plants take the carbon dioxide from the atmosphere, combine it with water, use a bit of light energy in the presence of chlorophyll and other factors to convert it into carbohydrates while releasing oxygen as a waste product. The oxygen produced is then used by other living organisms, animals and humans.

Producers of greenhouse crops, including cut roses, are aware that increasing carbon dioxide levels in the greenhouses will ultimately increase crop yields. The process involving the release of CO₂ gas from storage cylinders to “fertilise” the air is known as “CO₂ enrichment”. CO₂ enrichment has the benefits of shortening the growing period by 5 to 10%, improving crop yield and quality, and plants are quicker to flower as leaf size and leaf thickness are increased. The average concentration of CO₂ in the Earth’s atmosphere varies between 340 and 400 parts per million (ppm). In a greenhouse situation the net increase in photosynthesis may be up to 50% as CO₂ levels increase from 340 to 1,000 ppm. Under ideal conditions the saturation point for CO₂ is somewhere between 1,000 to 1,300 ppm. You would agree that this concentration is considerably higher than average atmospheric levels that already occur or are predicted to occur. From this you could conclude that an increase in the CO₂ concentration in the Earth’s atmosphere would not have any detrimental effects to rose growing but rather the opposite. There would be more growth, larger plants and a longer growing season.

In summary, from what I have described, the impact of climate change with the expectation of an increase in temperature, changes in wind and rainfall, more droughts and floods, a rise in sea level and an increase in the atmospheric carbon dioxide level would not be detrimental to rose culture but rather the opposite. In general we could expect there would be more growth, earlier flowers, a longer growing season and earlier rose shows.

And finally my message to the “global warming” supporters: I am in no way a supporter of encouraging the production of man-made CO₂ emissions. I suggest that the important issue is the burning of fossil fuels, and not cows and the methane produced. When that former is sorted out, then our other problems could be solved.

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MY FAVORITE DANISH ROSE GARDENS

By JENS OTTO PEDERSEN

GERLEV PARKEN

The Gerlev Park was established in 1979 when *Fonden for træer og miljø* (The Foundation for Trees and Environment) received as a donation ten hectares of land, on which many trees had already been collected and planted by the former owners. Today the park consists of three separate areas: The Danish Tree Collection, The Collection of Roses Grown by Four Generations of the Poulsen Family, and The Collection of Valdemar Petersen's Historic Roses.



Valdemar Petersen and his rose collection is one of my favorites. After graduating as a skilled gardener, for several years after the end of World War One, Valdemar Petersen (1901-1986) traveled through Germany and France to work --or "go waltzing"--as it was then common for young craftsmen to work a half year here and half a year there getting experience and knowledge of their trade. There was much to be done around Europe after the war. Since trenches and shell holes could not be returned to agricultural land immediately, often forests were planted on a large scale in the Verdun and Meuse areas. At one stage during Valdemar's journey, he worked in a French plant nursery that specialized in old roses (Turbat & Co). Perhaps this was where he first became aware that the roses he was working with were "forgotten treasures" which were just waiting for someone outside of France to discover and propagate.

After a half-dozen years "on the road," Valdemar Petersen returned to Denmark and worked at the Hesselager Estate in Fyn (Funen), where he met Elna, who would be his wife for almost 50 years. In 1930 Elna and Valdemar Pedersen founded their own nursery at Løve in the western part of Sjælland (Zealand). Valdemar Petersen had a strong interest in plants of all kinds, but he specialized in fruit trees of pears and apples for desserts, cultivation of berries for kitchen use, and, before it became fashionable to eat salad, he grew different lettuces in pots.

He also began to gather, test and propagate the best of the old roses. He paid particular attention to varieties that originated prior to 1800, thus before the great explosion of European rose breeding began. These old roses are characterized

by a more fragrant scent, and their colors are gentler and more nuanced. He continued his work for almost 50 years and became a pioneer in their propagation, collecting more than 500 species and varieties. At the same time he sought, as far as possible, to discover their histories. In 1968 he published the book *Gamle roses i nye haver* (Old Roses in new Gardens), which is still the bible of heritage rose for Danish rosarians.

The Foundation had as its patron Queen Consort Ingrid [1910-2000]. When she had learned that this unusual collection of historical roses that Valdemar Petersen had amassed over decades might be in danger of disappearing when he would no longer tend them, it was agreed that the entire collection of roses, a total of 778 varieties, should be moved to Gerlev Park. This was completed in 1984, and a very valuable gene bank for both botanical and historical roses, some very rare, was saved. (Valdemar Petersen's nursery in Løve and his valuable collection of plants there were also saved when in 1979 the nursery was taken over by Torben Thim, who has continued to develop and refine the collection.)



In the years since 1984, maintenance of the rose garden declined, so in 2013 a group of volunteers formed *Gerlevparkens venner* (Friends of Gerlev Park). Since then there has been a remarkable transformation, through hard work and fundraising (for a new pergola). Gerlev Park has become for me a rose-paradise-on-earth, and I look forward to each visit.

THE GARDEN AT TRAPPENDAL

It may be a bit presumptuous, but the next favorite garden I would like to describe is our own garden at Trappendal. My partner Gunnar Krag began this rose garden in 1988. Two years later I moved in, and together we have changed, laid out, and extended a number of rose beds in the garden, and we are not yet finished. The biggest changes were in 2004 where we sold three building sites for summer houses. That gave us the possibility for a much-needed

renovation of the grounds east and west of the farm buildings and a chance to create a west garden and an east garden. The site today is just under 7,000 sq. metres. Our gardens now have almost 400 different roses, mainly species, heritage and ramblers, although lately more modern, repeat-flowering roses have found their places in the beds too. A passion for gallicas has led to 40 different sorts, and on walls, trees, and pergolas there are about 140 different ramblers and climbers.



A hobby of ours is to see what self-sown roses can bring. It all started by accident. A chance seedling in our backyard looked interesting, and two years later the rambler 'Trappendalrosen' was named. We presume it is a cross between 'Lykkefund' and 'Veilchenblau' as these two cover the wall of the house end of the farmhouse. Since then more self-sown roses have been taken under our wings and been named after different family members, so you will find several *Fru*, *Frk.* and *Hr.* (Mrs., Miss and Mr.) in our garden. Lately a new rambler 'Miss Asta' has created some interest because of its shape and color. For the past 3 or 4 years Gunnar has sown seeds from selected hips. This gives a lot of seedlings, but funny enough the results are rarely as interesting as when you let nature take its own course and take care of the seedlings you find on your way.

Rosarians are often asked: "What is your favorite rose?" We all know it is a silly question, and the only reasonable answer is often: "The last one I saw!" However, one rose in particular, which we have in at least five beds, needs special mention: 'Königin von Dänemark' ('Queen of Denmark'). This Danish-bred Alba-beauty in my opinion must never be absent from a rose garden. You may know its story already, but to repeat a good story is often a pleasure:

'Königin von Dänemark' was bred by Scottish gardener James Booth. He had his business in Flottbek in Holstein, which at that time belonged to the Danish crown, so it is definitely a Danish rose we are talking about, isn't it! The rose is supposed to be a seedling of the Alba rose 'Maiden's Blush', and when it appeared in 1816 it was called 'New Maiden's Blush'. There could be doubters, but there is a



broad consensus that the rose should be placed among the Alba-roses, and that the father is probably a pink Damascene-hybrid. According to Christine Meile, Swiss researchers in the 1980s have found traces indicating *Rosa rugosa* in the in its ancestry, so it is a complex lady we are dealing with. Later, Booth named the rose after Marie Sofie Frederikke, the Queen of Frederik VI, and introduced it as 'Königin von Dänemark'.

Marie Sophie Frederikke (1767-1852) was the daughter of Count Carl of Hessen and Frederik V's daughter, Princess Louise of Denmark. She was a well-behaved and well-educated young woman who in 1790 married her Danish cousin Crown Prince Frederik. The couple had eight children of whom only two daughters reached adulthood. The royal couple had no grandchildren. Shortly after her last childbirth the couple ascended the throne in 1808 as King and Queen of Denmark and Norway. While the King participated in the Vienna Congress in 1814-15, she served as the Regent. Her weak health due to the many childbirths caused Marie Sophie Frederikke to live a relatively withdrawn life, although she participated in various charitable works. (Meanwhile, her husband amused himself with a certain Mrs. Dannemand.) In 1839 Frederik died, and Marie Louise Frederikke lived in quiet widowhood until her death in 1852.

But 'Königin von Dänemark' was not without problems for Booth. The director of the Hamburg Botanical Garden Professor Lehmann raised (quite unfounded) doubts about the authenticity of the rose. Booth was able to refute all charges, but if you study old nursery catalogs, as Christine Meile has done, and think of the number of new roses produced then--without today's naming and marketing rules--it is no wonder that confusion and doubts have arisen. But the rose is absolutely magnificent, of that there is no doubt whatsoever. Torben Thim

describes the flower like this: "When the carmine pink buds unfold, the petals are packed tightly into three or four quarters, as though confined in a bowl, to later break into a fascinating "puff " of pink reflexed pedals around a green eye in the middle. The light blue crimson tones are emphasized by the blue-green leaves in a marvelous way...The fragrance is unique and exceptional!" It could not be described more beautifully.

THE ROSE GARDEN IN MARIAGER

A very exciting and new rose garden which I saw just this summer was when our local rose group made an outing to the old cloister town of Mariager, known as "The City of Roses." After a long and difficult planning process, the rose garden, created and maintained solely by volunteers, was opened in June 2016, and it already contains some 850 different rose varieties. A booklet by Eskild Skau describes the garden's past, present and future:



"It has been the intention to lay out a garden with as many different roses as possible in the given space. The vast majority of gardens and parks around the world show only the historic roses in rosariums, whereas more recent creations are often shown in rose gardens with a few varieties in mass plantings. At Mariager we have chosen to let tradition and renewal go hand in hand and have created a garden that presents the glory of the world of roses from the very beginning to the newest varieties. At the entrance from the parking lot you are welcomed by two climbing roses, both new and highly prized for their beauty and fine fragrance: Danish 'Our Last Summer' bred by Rosa Eskelund and 'Grand

Award' from Poulsen Roses. At their base is 'Rosa Sancta', possibly the world's oldest rose. It was found in an Egyptian Pharaoh's tomb dating from 60 AD in the form of a rosary formed from roses in full bloom. Within the time span of these 2,000 years, the garden can be experienced most beautifully with 22 themed beds framed by an outer bed of climbing roses, shrubs and bushes. All roses in the garden are provided with labels indicating name, breeder and year of introduction. No other plant carries so much cultural history as the rose does. Roses have always been the subject of cultivation and admiration, and their names carry stories about royal families, famous persons, wars and much more. This applies in particular to historic roses, but even today we name roses after celebrities. Many variety names also relate to a location or city name. 'Mariager Rose' is a good example. Viewed from the entrance, the garden has been laid out as a rosarium which takes you on a journey back through time, the many sections of the rose-kingdom beginning with the most recent and ending with the oldest varieties and the species roses from which it all originates."

Our visit on a sunny Sunday in July was a very fine experience. Although many of the historic roses will need another year or two to fully show their glory, the overall impression was of a beautiful and very well-kept garden founded on an obvious idea and realized by dedicated people. The garden is intended to be a place where the citizens of Mariager can breathe freely, but it has already become a major tourist attraction.

These, my three favorite Danish gardens, will be among those featured in the tours organized for the WFRS Convention in Copenhagen, during June and July 2018.

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Jens Otto Pedersen is a retired teacher and organist. He describes himself "as being—as most of us are--a self-taught rosarian." In 2010 he became a member of the board of The Danish Rose Society (DRS) where he has held the posts of secretary and vice-president. From 2010 to spring 2017 he was the editor of DRS members' magazine RosenNyt (RoseNews). Since 2012 he has been a member of the Local Organizing Committee planning the 18th World Rose Convention in Copenhagen, June 28 – July 4, 2018. See details at: www.wrc2018.dk. His and Gunnar Krag's garden (www.trappendal.dk) will be visited on the pre- and post-tours around Denmark. He can be contacted at: trappendal@profibermail.dk

© Photographs of GerlevPark by Margit Brix Jensen

Sources:

Torben Thim: *Historiske roser*, Gads Forlag, 1998

Christine Meile/Udo Karl: *Alte Rosen – alte Zeiten*, Wißner-Verlag, 2013

Rosenhaven i Mariager. Eskild Skau/Stæhr Grafisk/CittaSlow Mariager

RosenNyt: 2-2010, 1, 2013, 1-2017 – DRS

AFTERWORDS

2018 WFRS CONVENTION IN COPENHAGEN

The not-to-be-missed event next year for any rose lover, whether professional or pure amateur, should be The Eighteenth WFRS World Rose Convention in Copenhagen, Denmark, from June 28 to July 4, 2018, which will also coincide with the Fiftieth Anniversary of the World Federation. We refer you to their web site www.WRC2018.dk, which has all the details on the schedule, the many guest speakers, the special tours of city gardens and parks, and royal residences, and all the forms for registration, including for pre- and post-conference special tours and a list of hotels. Until November 30th the “early bird” cost is only € 396.

BAON will be there, and we look forward to meeting our readers.

CONSERVATION AND HERITAGE COMMITTEE

As part of the regional WFRS conference in Ljubljana, Slovenia, on June 12, 2017, the Conservation and Heritage Committee (hereafter, the C&HC), chaired by Dr. Yuki Mikanagi, had a well-attended morning meeting, primarily to discuss a proposed definition of Heritage Roses, a project that David Elliott presented to the group and which, after considerable open discussion, was approved by all the delegates from the 18 member countries represented. As issued by the WFRS Executive Director Derek Lawrence to all concerned members and groups it reads as follows :

The World Federation of Rose Societies Conservation and Heritage Committee defines heritage roses as all species and species crosses, all found roses (until they are better identified), and roses of historical importance such as 'Madame A. Meilland,' also known as 'Peace' 1945.

The discussion even after the resolution was approved unanimously, remained lively, especially on the question of determining a date to divide “old” roses from the “moderns,” but most agreed that the old division year of 1867 was no longer valid for all and that each country’s heritage rose groups should be flexible and could assign a time-span suitable to their country and situation, particularly when exhibiting and judging groups are involved. A fixed time-span or year is not part of the C&HC definition.

The Conservation Data Project, to focus on protecting rare roses facing possible extinction, was also outlined and discussed, as were the problems of regional identification codes and obstacles to the international shipping of roses.

Frans Thomas, President of the National Roses society of Belgium, stated that they will be pleased to host a WFRS Conservation and Heritage Convention in Brussels during June 2020, the exact dates and details to be confirmed.

At the conclusion Peter Boyd paid homage to the Royal National Rose Society, founded in the UK 140 years ago, which has gone into administration, placing its world famous “Gardens of the Rose” at St. Albans in Hertfordshire, in jeopardy. Complete Minutes of the C&HC Meeting are available from Derek Lawrence and/or Crenagh Elliott (dereklawrence@talktalk.net / theelliotts@shaw.ca)

DID YOU KNOW ?

That, according to the RHS Nomenclature and Taxonomy Advisory Group, *Rosa wichurana* is now regarded as a synonym of *Rosa luciae*.

You may also be interested in the newest edition of the “RHS Plant Finder 2017,” which contains 76,000 plants with details of 470 suppliers and 2,700 plants new to this edition, plus a special colour section celebrating the plants and people of its three decades of publication. This is an essential for any gardener or simply any plant lover, available from their online bookshop rhsshop.co.uk or from Amazon.

CORRECTION

At the end of the article in BAON #15 on roses in Oman, in the biographic note for the author Mia Gröndahl (page 7), the reference to her book's title should have read : *Her extensive research on roses has resulted in the book “Österlens gamla rosor,” published by Bokförlaget Gröndahl & Rietz, at: www.grondahlrietz.se*
Our apologies for mixing up the Swedish!

NEW BOOK ON CALIFORNIA ROSE HISTORY

Darrell g.h. Schramm's new book, *Rainbow: A History of the Rose in California*, examines the wild roses found there and the early garden roses from the Gold Rush era to 1924 (the first 75 years of statehood). Stories of the nurserymen—and two women—who grew, produced, and sold those roses comprise a large section of the book, with many colored illustrations. Darrell is a retired professor, rose historian, avid gardener (more than 200 roses in his Vallejo garden), and BAON author (see his article in BAON #15, March 2017, about rare Edwardian roses). The book can be purchased directly at www.createpace.com/7229975, \$24.99, or from Amazon.

HOW TO SUBSCRIBE

Each issue of BAON is distributed online by WFRS Executive Director Derek Lawrence to all member societies and groups, associate members and breeders' club, and the “Friends of WFRS,” and each is encouraged to distribute BAON further to their memberships or associates. However, there are certainly misses and if you do not receive BAON from your society or group, we encourage you to email Crenagh Elliott (theelliotts@shaw.ca), giving your name, postal address (so we know the geographic spread), your rose group affiliation (if any, it's not required), and your preferred email address. Crenagh, who has been managing BAON's special distribution from the beginning, can also provide upon request PDF copies of all the previous issues.