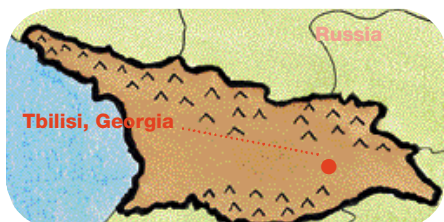


# Challenges on the Silk Route



by Katie Campbell



Georgia's independence from Soviet control has not been an unmixed blessing for the Botanic Garden in Tbilisi



1 A 1955 photo of the Tbilisi Botanic Garden, showing the formal parterres and the garden's relation to the city and surrounding mountains.

Since Georgia gained independence from Russia ten years ago, the Botanic Garden in its capital, Tbilisi, has suffered enormously. Chronic lack of funding, erratic electricity and water supplies, and recent devastating droughts are just a few of the challenges it faces.

In a struggling country with a damaged infra-structure, depleted resources, ethnic in-fighting in two of its provinces and an influx of over 250,000 refugees from neighbouring Chechnya, preserving this historic horticultural institute is hardly a priority. Nonetheless, it would be a sad loss if the garden were allowed to disappear.

The Botanic Garden occupies a spectacular 128 hectare (270 acre) site in the centre of Tbilisi. Though still a much-loved focus for local families and amorous couples, the garden itself is neglected and unkempt. The greenhouses have been smashed and lie a haven for thuggish weeds; the paths are overgrown, the laboratories decaying and the offices moribund.

As I toured the grounds with Head of Botany, Dr Mamir Loria, he suddenly stopped. "Ahead," he said, gesturing to a cypress-lined track before us, "is the ancient trade route to Mongolia. Behind lay the main route south to Turkey."

We were standing on one of the major cross-roads of the Great Silk Road, a gateway between Europe and the Orient. Suddenly I realized that, with the many triumphs and disasters it has experienced over the years, the present state of the Botanic Garden is just one short episode in the long – and continuing – history of this august institution.

Tbilisi itself is one of the earliest inhabited cities in the world. A skeleton recently

found in the region suggests that it was here in the Caucasus, and not in the Euphrates Valley, that the first *homo erectus* resided. This is also where the oldest cultivated grape seeds – dating back to the 7th millennium BC – were discovered, leading many archaeologists to call it the birthplace of viticulture.

Despite its relatively small size (70,000 square kilometres or 27,000 square miles), Georgia's geographical position provides a remarkable diversity of climatic conditions, from the alpine slopes of the Caucasus mountains to the marine shores of the Black Sea.

The name Tbilisi, meaning 'warm water', refers to the local sulphurous springs which in the 5th century inspired the king of Iberia (as this eastern Georgian kingdom is confusingly known) to make it his capital.

Tbilisi's Botanic Garden was founded in the 19th century in the grounds of the ancient royal gardens. Situated in a fertile canyon, protected on the south and east by mountain ranges, the garden's climate is moderate and continental. There is an average annual rainfall of 518 mm (20.72 inches) and a mean annual temperature of 12.6°C. In winter, temperatures range from 12°C to minus 16°C, though in the latter half of the 19th century temperatures as low as minus 23°C were recorded.

Given the area's turbulent history, records are understandably scarce. Nonetheless, it is clear that the site of the Botanic Garden has been cultivated for centuries, perhaps even millennia.

The canyon in which the garden sits is still known by its ancient name, Legvtakhevi, or 'fig tree gorge', and the Sololaki mountain range, which offers



**2** Gardeners in the Horticultural College in 1911. The bearded man is their head teacher.  
**3** Derelict greenhouses which are due to be restored next year.

shelter to the plants, derives its name from the Arab word 'sulu-lakh' – an irrigation canal, suggesting that one of the Arab emirs who ruled the country from the 7th to the 11th century must have harnessed the local streams to water his pleasure gardens.

When the region was regained by the Georgian kings, a Golden Age of peace and prosperity prevailed for 200 years, but from the 13th to the 18th centuries the country was dogged by repeated invasion from Mongols, Persians and Ottoman Turks.

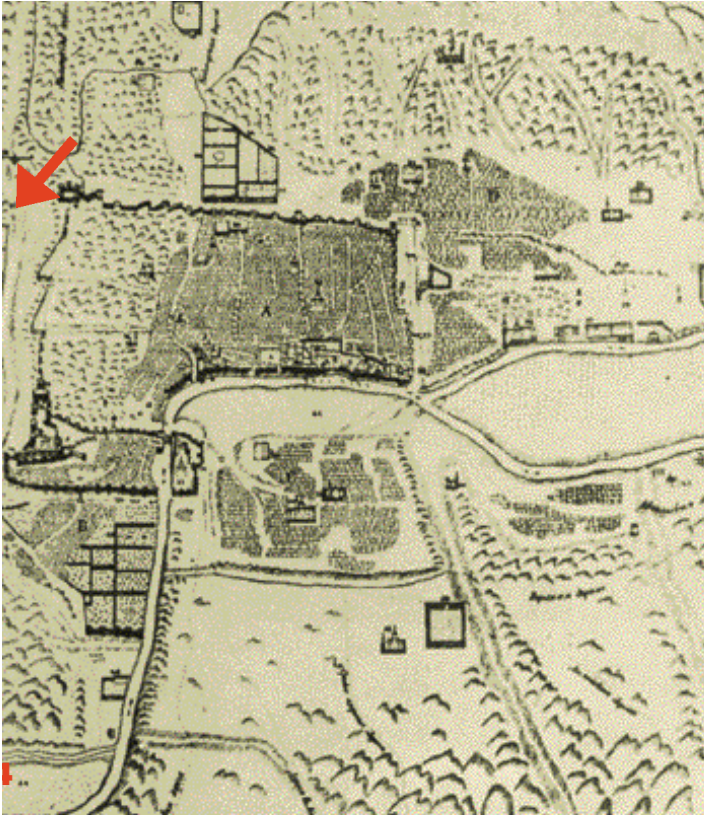
Despite this turmoil, the royal gardens continued to be cultivated. In 1672 the traveller Sir John Chardin recorded that "in the environs of Tiflis there are beautiful gardens. The largest of them is the Garden of the Ruler. Fruit trees here are few, but there are many decorative trees, giving shadow and coolness during the hottest summer months."

A century later, in 1768, another traveller, named Delaporte, was also struck by the place. "We were shown the Royal Palace; it is situated on the top of a hill and one can see that its surroundings are no less beautiful than its inner ornaments. One may also add that large hills have been converted into gently sloping squares with running streams."

Sadly, nothing remains of this garden. In 1795 a Persian invasion razed the entire city including the palace and its surroundings, and this marked the end of the garden's role as a royal pleasure ground. Five years later, Georgia was annexed by Russia; the site was renamed the Tbilisi State Garden and a new incarnation began.



Map: Bob Toxey, Photograph 3, Katie Campbell



**4 Map of Old Tbilisi made by the Russian Prince Vakhushti Bagrationi in 1735. The Botanic Gardens are indicated by an arrow.  
5 A photograph from 1935. On the left is the Herbarium built c1910 to house the expanding collections, the library, conservation studios and study rooms. The building on the right was for administration.**

**6 Cacti in the botanic gardens.**

Within ten years, Mother Russia was finding it difficult to keep her remote province supplied with medicine; so in 1809 the Medical Office of Georgia was allocated 1000 roubles to start a pharmacy and botanic garden on the site of “the garden behind the gate of the sulphur baths earlier belonging to Queen Mariam”.

While Moscow had had imperial gardens since the 15th century, the Russians were slow to adopt the idea of botanic gardens. It was only after Peter the Great visited Holland and Germany in 1704, and decided to create a garden to rival those of western Europe in his new city of St Petersburg, that Russia’s first botanic garden was established.

By the 19th century, there were botanic gardens throughout the empire, though Tbilisi’s was the first and, for a hundred years, the only scientific institution of its kind in the Caucasus.

In the middle ages, monasteries had kept physic gardens for medicinal purposes, but the first truly botanic gardens did not arise till the 16th century. Exotic specimens, such as agaves and sunflowers, coming in from the New World, coupled with a Renaissance delight in classification, persuaded the major universities – Padua and Pisa (1543), Florence (1545), Leiden (1587) – to establish botanic gardens so that they could supplement classical readings with the direct study of plants.



By the 19th century, botanic gardens had become places for pleasure and entertainment as well as laboratories for scientific research; and when the Russians decided to exploit the site of Tbilisi’s former royal garden, plants of medicinal interest were simply added to whatever ornamental trees and flowers remained.

But with only one botanist and six invalid soldiers to oversee the enterprise, Tbilisi’s physic garden did not flourish. In 1845 the garden was renamed yet again. Now called the Botanic Garden, it was given a new brief – to be “the chief centre of gardening in the region and (to) contain a selection of Caucasian flora remarkable either for beauty or for useful properties of local plants”.

Terraces were cut, irrigation canals dug, water-pools made and two bridges built across the gorge. Trees such as *Poyal Pawloniq* white ash, various *biota* and juniper were planted.

A nursery was also established to graft the best varieties of pears, apricots, peaches and plums from the Crimea onto local stock. Within five years, apple, pear, quince, cherry, plum, various nut trees, and red and white currants had been added to the nursery, sixty grafts of lemon were made on wild stocks, and two varieties of tobacco were planted.

The best varieties of vegetables, engrafted fruit trees and vines were sold or distributed free to the local population, and

soon Tbilisi's Botanic Garden was supplying the finest orchards of the Russian empire.

In 1858, a horticultural college was established in the grounds and the Botanic Garden's remit expanded to include the acclimatization of foreign species and the cultivation of technical and industrial plants.

By 1875, it boasted 1,238 species of native and hot-house plants, including the much-coveted pineapple. Despite such variety, however, the collection was planted randomly in parterres of mixed plants with no regard to species, native habitat or any of the other scientific categories usually used for classification in botanic gardens.

Such disorder could not last long in the pedantic realm of the late 19th century. In 1883 a specialist dendrologist was elected head of the gardens; departments were added, the collections expanded, and the budget increased more than six-fold from its 1869 level of 2,500 roubles (very roughly equivalent to £3,720 in current value) to a massive 15,520 roubles a year.

By 1900, the botanic garden contained 1,444 species from 124 families, and had departments specializing in Bulbous Plants, Conifers, Foreign Aquatic Plants, Alkali-Resistant (Salt-Tolerant) Plants and Caucasian Live Flora. The latter contained, among others, *Quercus hartwissiana*, *Q. castaneifolia*, *Arbutus andrachne*, *Protia persica*, *Berberis iberica*, *Paeonia lagodechiana* and *Thymus ladganurus*

There was also an Alpinarium, a department of Useful Plants (medicinal, fibre, dye, food, forage, vegetables etc) – and another for Southern Plants.

The grounds were expanded from six to 63 hectares (15–158 acres), roads were laid and brick houses were built to accommodate workers in the nursery, and college personnel and specialists.

Roloff Adolf Christian was appointed the first Director in 1902 and new positions of Chief Botanist, Gardener and Conservator were created, and relations were established with foreign botanists.

Intensive study, and the collecting and cultivation of local flora, began in earnest, culminating in the *Delectus Seminum* an annual catalogue of plant seeds which is still published to this day.

Meanwhile the Arboreta of Fruit Trees continued to acclimatize such exotica as persimmon, pistachio and Japanese plum, and disseminate the best varieties throughout the Transcaucasus.

To overcome the perennial problem of insufficient and untrained staff, until 1913 workers in the garden were provided with free lodging and an annual salary of 180 roubles.

All this came to a sudden halt in 1914, and the garden's fortunes fell once more as Russia suffered war, then revolution. Staff and funding were cut, contact with foreign institutions was terminated, scientific study was suspended and buildings fell into disrepair. A severe winter in 1924-5 and a drought the following summer further destroyed what remained.

Under the Soviets, the garden was slowly repaired. In 1934 the Institute of Botany was separated from the Botanic Garden and established as a separate enterprise, and in 1943 the garden was brought under the aegis of the Academy of Sciences of the Georgian Soviet Socialist Republic.

Throughout the Second World War, work was put on hold, but after the armistice the garden was expanded to its current size of 128 hectares (320 acres) and underwent a major modernization programme involving new irrigation systems, hot houses, laboratories and a new museum. Electricity and telephones were installed, the old wooden bridges were replaced with reinforced concrete bridges and roads were asphalted.

New departments were established, including a Physiological laboratory, a meteorological station and departments for Plant



**7 The Botanic Garden in winter.**

**8 This cypress-lined avenue was once a section of the Great Silk Road.**



Photograph 8: Katie Campbell



**9 The garden staff c 1900.**  
**Roloff Adolf Christian,**  
**first Director of the Gardens,**  
**is indicated with an arrow.**  
**10 Dr Mamir Loria,**  
**Head of Dendrology, beside**  
**the administration building.**

Introduction and Selection, Decorative Horticulture, Medicinal Plants, Agro-technology and Flowering Cultures, Botany and Protection of Nature, and Scientific and Technical Information.

In the post-war period the garden was also responsible for developing and constructing public parks and gardens in Batumi, Borjomi, Rustavi, Kutaisi and other distant cities of Georgia.

A five-storey apartment house and a further building containing 48 flats were erected in Tbilisi to accommodate the employees who used to live on site.

The scale of such works suggests that the garden now employed dozens of workers. By 1986 it owned five lorries, six cars, three tractors, seven motor-scooters and a motor-cycle. But such prosperity was not to last. Four years later, the region was plunged into chaos with Georgia's bid for emancipation.

That bid was successful, but recovery is slow. Ten years into independence, Tbilisi's Botanic Garden is struggling to survive, its collections reduced by at least 20% from pre-independence times.

Today, the garden is divided into four sections: Arboretum, Rare and Endangered Plants, Caucasian Flora, and a Biological Reserve. These encompass about 3,500 species, varieties and cultivars, of which 1,000 are trees and shrubs and the rest are herbaceous plants.


The garden is particularly proud of its local flora collection which contains 700 species of which about 60, such as *Osmunda regalis*, *Tulipa Biebersteiniana*, *Opulus euphratica*, *Iris lasica* and *I. iberica*, *Betula raddeana* and *Phillyrea decora*, are rare or endangered.

The medicinal garden remains, but the pharmaceutical laboratories no longer function.

Today, the main fields of research are plant introduction and conservation. The staff has been reduced to 20 untrained workers (mostly refugees) and 36 scientists. The average wage for a trained scientist (when those wages are paid) is equivalent to just £20 a month.

Nonetheless, things are beginning to look up. Contact with other botanical institutes continues through membership of the BGCI (Botanic Gardens Conservation International).

Last year, a German bank gave £7,000 to help restore the gardens and has pledged a further £14,000 towards the restoration of the greenhouses and other buildings, as well as the construction of new laboratories.

Clearly, money is desperately needed, but Georgia's greatest resource has always been her people – resilient, cheerful, pragmatic. Their affection for the place is likely to ensure that Tbilisi's Botanic Garden will survive this latest turmoil, and will again rise from the wastes of war to regain its international reputation. 



Anyone who would like to help Tbilisi's Botanic Garden should get in touch direct with Dr Mamir Loria at:  
**The Tbilisi Botanic Garden,**  
**1 Botanic str.**  
**380005 Tbilisi, Georgia.**  
**Tel & Fax: +7 995 32 723409.**  
**E-mail: botbag@viam.hepi.edu.ge**

Photograph 10, Kate Campbell