

St Andrews Botanic Garden

Bob Mitchell

In 1889, when the University Botanic Garden was founded, its focus was on teaching botany and natural history. That same focus is very much in evidence today, and with a much wider remit. Education now centres on projects with pre-school nursery groups; primary schools, teaching the curriculum for excellence; senior schools with specialised studies; and adult education classes with lecture series, botanical painting, and hands-on workshops. Biodiversity is the buzz-word in every activity, with hardy plants playing a huge role.

The Garden has developed on its present site of 7.28 hectares since 1960, and has a collection of 8,000 taxa growing in a wide range of habitats. Of prime importance is the complex of pools and ponds which link the rock garden (fig. 1) and scree, and the heath and heather garden, to the Scottish native ecological borders. Adjacent are the *Rhododendron* terraces and the borders containing wild-collected species, especially plants given to us by the Royal Botanic Garden Edinburgh from Joseph Rock's last expedition to west China in 1947–8.

Tree and shrub borders give shelter to the glasshouses and particularly to the herbaceous-plant borders from the strong, prevailing west winds. The regular

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Fig. 1 The rock garden

herbaceous border, which gives flowers from April to the frosts of November, is backed by a 200m-long beech hedge. In an area of full sun, the informal island beds tie in nicely with the flowing lines of the tree and shrub borders (fig. 2). These beds are planted in the Jekyll style, brought to prominence by Alan Bloom in the late 1950s, using species and varieties which will grow and display without the need for staking. Woody plants give height and scale while herbs and bulbs form the ground storey.

St Andrews Botanic Garden still maintains its Order Bed system. At present it conforms to the Cronquist/Takhtajan classification, but there are plans to amend this to the new APG DNA-based system, which simply refines the evolutionary basis of the plant kingdom. The Order Bed area is still used for teaching but, it has to be said, very sadly, not so much as in the past when botany as a subject was in vogue. It was from these collections that, on demand, individual flowers were collected in their prime and quickly frozen to be taken for studying the plant's floral formula. I suspect few botanical courses would understand this practice nowadays.

Within some of the tree and shrub borders, additional shade-loving plants provide ground cover. Imagine our delight when, after years of experiment, the parasitic *Orobanche lucorum* began to rampage through the borders, mainly on the roots of *Berberis*.

In the lee of the glasshouses, bulb borders were developed by replacing the natural heavy clay soil with a very open compost mixture, above land-drains, to ensure perfect



Fig. 2 Some island beds



Fig. 3 *Ranunculus calandrinoides*

Fig. 4 *Bergenia stracheyi* Alba GroupFig. 5 *Iris magnifica*

drainage. These are sheltered, warm areas for tender plants. *Echium pininana* seeds here regularly, *Echium wildpretii* has flowered on several occasions, and *Mitraria coccinea* has surprised us for many years by producing its crimson tubular flowers in the summertime. *Agave americana* survived for 40 years until the past two severe winters. *Crinum x powellii* continues to flower here after 40 years.

The pre-eminent role of the garden is to present to the public an aesthetic beauty, but always underlying this is the education of visitors and, through the schools' programme, to illustrate the biodiversity of the plant kingdom. The Garden contributes to the study of the fauna, and to recording what is on-going for Fife Nature. For three years we have been delighted to record the Comma butterfly in its northward progress, a result of climate change.

We have an important part to play in plant conservation. We grow 174 species listed in the *Red Data Plant Book* as threatened or endangered, and we are collaborating with Botanic Gardens Education Network in the Target 8 projects, where we grow, and increase locally, species which are at risk. Three of our local associated schools have adopted a plant each.

Lychnis viscaria Selkirk Form became extinct in the wild due to whin overgrowth; it is now being grown jointly with a school, and plants grown in the Botanic Garden have been released back to their natural habitats. *Erigeron acer* is being grown by another school and replanted back into its population in the dune slacks. *Dianthus deltoides* is being raised by a third school to bulk up its population in one of four sites in Fife.

The Tree Register of the British Isles has been measuring trees in the Botanic Garden for many years and, to our surprise, we can boast the largest apricot – *Prunus armeniaca* – and five more UK and Ireland Champions, plus 17 Scottish and 29 County Champion trees. A trail is about to be published.



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Fig. 6 *Roscoea humeana*

Fig. 7 *Paeonia mairei*

Some plants of note through the seasons.

Ranunculus calandrinioides (fig. 3) was our plant of the month for January 2012. One of the most striking buttercups, it grows wild in the Atlas Mountains in Morocco. It is perfectly hardy but it does need perfect drainage. We grow ours in the unheated Alpine House to protect its fragile white-tinged-pink petals from damaging winds and mud splash.

Bergenia stracheyi Alba Group (fig. 4) is a dwarf species found naturally from Afghanistan to Tibet, and it too is perfectly hardy with us. It grows well in the rock garden in full sun. Its nodding white flowers, which appear in April and May with us, are scented. Clumps can be divided after flowering but must be kept moist.

Iris magnifica (fig. 5), one of the Juno group, surprises us each June with its 20cm-tall flowering stem displaying large pale blue flowers in succession. This plant demands perfect drainage for it comes from Asia Minor. Another *Iris* with a long pedigree for us is *Iris germanica* with its pale sky-blue flowers. This is a tuberous iris and is one of the easiest to grow. Our plant was collected by a relative in the Dardanelles as a 'memento' before his evacuation in 1917. It is, of course, the religious flower of the Turks and found around their mosques.

Roscoea humeana (fig. 6), a hardy member of the Ginger family, comes from Sikkim and Bhutan. There are seventeen species in this attractive genus and all worthy of growing. Our plant has established well and sows itself around. Its showy large flowers are a magnet for insects.

Paeonia mairei (fig. 7), fairly recently introduced by Peter Cox, is a very striking plant. Its flowers are rosy-red, large and on a 30cm stem. It quickly establishes itself. We grow it among rhododendrons. Incidentally, because our soil is derived from magnesium limestone with pH 7.4, we were able to drop the soil to acid conditions

Fig. 8 *Colletia hystrix* 'Rosea'Fig. 9 *Sedum* Herbstfreude Group

(pH 6.9) by adding huge amounts of organic matter as well as pioneering the use of flowers of sulphur in regular annual dustings. We advise growers not to try to change nature but, with our need to grow the widest range of plant families for teaching and research, we felt justified in doing so. The Rhododendron Garden is now a firm favourite of many visitors.

The shrub *Colletia hystrix* 'Rosea' (syn. *C. armata* 'Rosea') (fig. 8), from Chile, flowers profusely in October and November. Its pink flowers attract the late butterflies with Red Admiral and Comma predominant. We have grown this shrub for 40 years in the shelter of two glasshouses and it has never failed us. It is now over 3 metres tall.

Sedum 'Autumn Joy' (fig. 9), now with the cumbersome name of *Sedum* Herbstfreude Group, is another stunning plant to attract the butterflies and hoverflies while providing a late display in the herbaceous island beds. There are many excellent *Sedum* cultivars to give an extended flowering period.

There is always plenty to enjoy and learn, so do visit the Garden when you can. See our website for more information. It includes our *Plant of the month* series. 🦋

Bob Mitchell has been Curator, now Honorary Curator, of the Garden since 1962. A lecturer and writer, he was joint leader of the Sino-British Expedition to Cangshan in 1981, and editor of the Scottish Rock Garden Club journal for six years.

See: www.st-andrews-botanic.org/