white and pink flowers is a fine, small, weeping tree. The distinctive Malus trilobata, with its erect growth is good for restricted areas with its attractive maple-like leaves and good autumn colour. Malus toringoides and Malus transitoria are also attractive with their maple-like leaf shape. They also produce fine autumn colour, the latter having particularly fine yellow gold tints.

When more space is available, Malus hupehensis with profuse small white flowers is very good, as is the better known Malus 'Van Eseltine' with its scarlet buds opening to pink flowers. Malus kansuensis has good elongated red and yellow fruits, whilst the erect growing Malus prattii and Malus yunnanensis have very good autumn colour. Malus tschonoskii is probably the best known for autumn colour and is a strong growing tree.

Amongst new plantings to be made there are several cultivars of potential interest. Malus 'Dolgo', large single white flowers and 'Basketong', 'Purple Wave' and 'Roberts' Crab' from the Malus × purpurea group with red leaves and reddish-pink flowers show great promise.

## **HOSTAS**

## DIANA GRENFELL<sup>1</sup>

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The first hostas to arrive in Britain were H. plantaginea and H. ventricosa imported from China in 1789 and 1790 and still extensively grown today. H. plantaginea, the old August lily, is more at home as a tub or pot plant in gardens in the South of France, but flowers well in southern Britain if grown by a sheltered south-facing wall. Its hybrids 'Royal Standard' and 'Honeybells' were raised in America in the 1950's; with their H. sieboldii parentage, they increase rapidly, making ideal ground cover and landscape plants, with fragrant flowers. Kevin Vaughn, and Mark Zilis, two American plant geneticists, have used them as parents to produce hostas with streaked and variegated leaves and very fragrant flowers. Two recent cultivars are 'Sugar and Cream' and 'Sweet Standard', but 'Summer Fragrance' is the first to have scented purple flowers and variegated margined leaves.

The von Siebold introductions to Holland and Belgium led to nomenclatural confusion when the hostas were later introduced to Britain, with botanists hastening to honour von Siebold. Of these, H. sieboldiana, which must surely be the archetypal hosta, is often

<sup>&</sup>lt;sup>1</sup> British Hosta and Hemerocallis Society

called H. sieboldii although they are quite different. H. sieboldiana, large and glaucous-leafed, has many variants of which we usually grow var. elegans, larger, more rounded and bluer than the type, and 'Mira', a giant form with pointed leaves.

The variegated form of var. elegans, 'Frances Williams', named at Oxford Botanic Gardens, is quite the most popular hosta grown today. In common with most hostas it takes at least 4 years to develop its true character: deeply puckered leaves and wide, creamy-yellow margins. 'Golden Circles' is a sport of similar character. Both occasionally produce crowns bearing all-gold leaves. If these crowns are isolated and kept growing well, they may be stabilised, in which case they must be called the umbrella name 'Golden Sunburst'. An exciting new break is a plant named 'George Smith' which is, in effect, a reversed 'Frances Williams' with a pale centre and blue margins. American tissue culture laboratories have now produced a 'Frances Williams' type, but with a white edge, 'Northern Halo'. An even newer sport from this is 'Northern Mist', not yet available.

One problem with these micro-propagated hostas is that there can be 10,000 on the market within two years of the first appearance of a new break, but we actually need to grow them in gardens for 5 years to find out what they do.

Hosta tokudama is a slow-growing species, probably related to sieboldiana. It is considerably smaller, has deeper blue, cupped leaves which, unfortunately, collect debris from overhead trees and so on. Sadly, it is too slow-growing to be anything other than a collectors' item, as are its beautiful forms, the cloudy-yellow streaked 'Aureo Nebulosa' and yellow-edged 'Flavo Circinalis'. 'Aureo Nebulosa' is now much used as a parent in the U.S., one of the latest offspring being 'Fleeta Brownell Woodruff', a winner at this summer's Annual Convention.

Eric Smith's hybrid from H. tokudama, 'Buckshaw Blue', has also won many awards, although it is not a vigorous plant in Britain. However, the hotter summers in the U.S. encourage it to perform more successfully. It is a pity that so many poor seedlings masquerade under its name.

Hypoleuca urajiro, the white-backed hosta, is an equally desirable rare species. If well nourished it soon becomes clumpforming, discarding its natural habit of producing one or two very large leaves. Hypoleuca's pale green leaves have a certain amount of pruinosity and like other hostas with a bluish cast to their leaves, it does sometimes become virused.

Hosta venusta, is the best-known dwarf species we grow, and is particularly suitable as a rock garden plant. It flowers prolifically, increases rapidly but its stoloniferous roots can easily be teased apart to make other divisions.

H. kikutii, little known in Britain in either its type or forms until

Sandra Bond's Gold Medal Hosta Exhibit at a R.H.S. Westminster Show this summer, is a plant for the connoisseur or collector. Its ribbed, gracefully spreading leaves will be appreciated by those who can spot a good plant. A kind American collector is sending us plants of all the forms found in the wild, and an American nurseryman is now raising new hybrids. Our plant has pale mauve, flaring trumpet-shaped flowers of a distinguished quality.

H. fluctuans is now becoming known because of its attractive variegated form, and is one of the most desirable newcomers to Britain.

Akin to H. sieboldiana is H. elata. An unusual hybrid from H. elata seed, 'County Park', resembles a cos lettuce in shape. Its rugose leaves are packed tightly together thus tending to rot at the base, interesting, but not a good garden plant, in spite of its charming white flowers.

The slow-growing form of H. montana, 'Aurea marginata', is one of the most dramatic garden plants. This hosta can also throw gold-leafed sports and American tissue culture laboratories are using it to produce a medio-variegated form 'On Stage' and a form with cream edges, 'Shogun', both untried in Britain.

Another large species of bluish cast is H. nigrescens, little-known or grown in Britain, though popular in America. It is thought to be a parent of 'Krossa Regal', a large, vase-shaped hybrid with undulating flower spikes reaching 1.2 m. It was recently awarded a Certificate of Preliminary Commendation at a Royal Horticulture Society (RHS) Show. Its supposed gold form is not, in reality, a true gold colour, merely pale green unless the sun is exceptionally strong—and it is not really like 'Krossa Regal' at all. However, it does have wonderful ashen-mauve flowers, borne in profusion, on attractive tall pale grey scapes.

H. rupifraga too, ought to be better known. It grows virtually unnoticed in one or two botanic gardens yet it makes dome-shaped clumps of heavy-textured, shiny, heart-shaped leaves small enough to be accommodated in most gardens. Its congested racemes of deep purple flowers won an award at an RHS show.

H. undulata has never been seen in the wild. It was brought to Europe with von Siebold's first batch of hostas in 1829. Von Siebold's Japanese collectors saw it growing in a Nagasaki garden. It is only designated a species for convenience. It is unstable in all its forms. It has particularly well-marked flower bracts which actually look like flowers. Its changeability often puzzles growers since the second crop of leaves carry virtually no variegation at all, merely indistinct streaking. Mature plants often sport green shoots, the green plant then becoming H. undulata 'Erromena'. 'Thomas Hogg' in Britain is thought to be the white margined form. However, many unidentified white-edged hostas are called 'Thomas Hogg' without any justification at all. The central area of white in H. undulata

ranges from virtually the whole leaf as in H. undulata var. undulata, to 'Medio-variegata' which is about half and half to 'Univittata' which is recognised by its half inch wide white central band. H. undulata is grown as an edging plant around houses and along borders in many parts of America.

Species first found in the wild in their variegated forms must carry the species epithet. The most widely grown of these is H. sieboldii or H. albomarginata as it used, wrongly, to be called. Its green form has trumpet-shaped white flowers, thought to be even larger in the hybrid 'Weihenstephan'. The white-edged seedling 'Louisa' was the first hosta raised with white flowers and white margins. Unfortunately it is not particularly vigorous in Britain.

Large plantings of *H. decorata* in the U.S. were the first indication that it is a very good hosta indeed, making a good looking ground cover but difficult to grow in Britain. It is unmistakeable for its dark green leaves and hard white margins.

More misidentification occurs over H. crispula than with almost any other hosta. In H. crispula the whole leaf undulates—not just the margin. It has a certain poise which sets it apart from all other hostas, and there are literally hundreds, of similar type. H. crispula flowers in mid-June, earlier than any other hosta, which is the certain means of correct identification. It is most often mixed up with 'Thomas Hogg' and H. fortunei 'Marginato Alba', and to confuse things when these are grown in moist soil in the shade, they often produce leaves almost as good as those of H. crispula.

H. fortunei is an umbrella name for a group of similar leaved garden forms—a species of convenience. Most of the botanical variants are infertile but produce good hybrids through bud-sports. Glaucous 'Hyacinthina', easily recognised by its fine, white pencilled margin, has a variegated form which has produced sports which are even better. 'Phyllis Campbell' has dark green veining overlaying the cream leaf centre and 'Julie Morss', which from its appearance must have H. sieboldiana in its genes, is outstanding among the newer British-raised hostas, having good shape, poise, and leaf texture, as well as well-marked variegation. Collectors think that if it were quicker to increase it might rival the Chelsea hosta, H. fortunei 'Albopicta'. 'Elizabeth Campbell', no known relation to 'Phyllis', is an improved form of 'Albopicta' which has the advantage of retaining the variegation for longer into the summer. 'Gold Standard' 's leaves unfurl a pale chartreuse green which slowly turns gold, making an excellent contrast to its spinach-green margin. A strange sport from H. fortunei 'Aurea', 'Nancy Lindsay' is speckled green and gold, similar to the little known H. crispula 'Lutescens'.

It was not until the RHS mounted an exhibit at Chelsea in 1968 depicting the wide range of species found in the wild that gardeners and nurserymen really became interested in wild hostas like the

Japanese H. longipes. The last 20 years has seen cooperation with Japanese collectors and botanists. One such collector was Eric Smith. He made his name crossing H. sieboldiana var. elegans with late-flowering H. tardiflora, resulting in the Tardiana group of small, glaucous-leafed hybrids. The best of these is 'Halcyon' which was awarded an AM in 1973 after trials at Wisley. Eleven others were also named but now the British Hosta and Hemerocallis Society, working with Wisley, the National Reference Collection holders, is naming all the numbered Tardiana group hybrids which can be correctly identified. The National Collections here and in USA (under the American Hosta Society) will then carry standard specimens, in dried form as well as growing plants. These National Collections will enable nurserymen to bring their own plants for comparison and in time we hope this will bring some degree of uniformity to the genus.

Hostas are currently the best-selling perennial in the USA, and fortunes are being put into tissue culture work. This creates problems as well as exciting new plants. When we import tiny scraps of immature plants, we have no idea of how they will eventually look in our gardens. 'Resonance' is one such. It looks ideally suited to a rock bank, but see it in maturity in an American shaded border and you would not believe that it is the same plant.

It is a temptation to raise too many hostas and there are obviously some which do not make good garden plants. 'Reversed' looks so desirable in a catalogue, but America growers find that it melts out even in their deepest shade. We are trying it here but would not recommend it yet. Less flamboyant, but more obviously a good new hybrid for small gardens is 'Allan P. McConnell' which seems to withstand some sun, yet with its variegated margin looks fresh and cool.

By contrast, 'Green Acres', 'King Michael' and rich gold-leafed 'Sum and Substance' dwarf the largest plantings of H. sieboldiana and H. montana and are being bred to resist slug damage. 'Sum and Substance' lives up to its name and has leaves the size of a large dinner plate.

Little gold variegated 'Golden Tiara' should be in every British perennial catalogue, being neat, clump-forming and ideal for the small garden. Tissue culture has thrown up an all-gold form, 'Golden Scepter' and another with a gold centre and white margin. Other small golds worth growing are 'Lemon Lime' and 'Golden Prayers'. My preference would be for 'August Moon', of H. nigrescens stock which, although a clear, soft yellow, has a slightly bluish cast or bloom. It increases rapidly, has good flowers and is a tissue culture lab's dream, since while reproducing very accurately, it does sometimes throw up marvellous sports like 'Lunar Eclipse' with white margins and now 'Mayan Moon', gold with a dark green narrow, irregular margin, which I covet more than any other hosta.

Before the advent of tissue culture, a number of new breaks were achieved by using various techniques such as x-rays. This method produced 'Flamboyant', which presumably has damaged genes. The juvenile plant exhibits three or four colours in every leaf. As the plant matures, three or four years later, these multiple variations disappear and the leaves end up with merely a wide cream margin. Not unpleasing but not the original 'Flamboyant'. The mature form has been given the new name of 'Shade Fanfare'. This raises problems with the Trade Descriptions Act if the plant is not carefully described at the point of sale.

It may be tempting to buy in all these new cultivars as soon as they appear, but do not let us forget that they are bred primarily for heavily shaded American gardens where the climate and more particularly the intensity of sunlight, is quite different from our own.

Hostas are wonderful foliage plants and in the end it is their shape, poise, and bearing rather than a complex variegation which singles them out as aristocrats.

## **PRIMULAS**

## PETER FOLEY

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Introduction to the genus. Primulas are a vast genus, covering the whole of the northern hemisphere. We grow somewhere in the region of 300 different species, cultivars and hybrids, an indication of how freely primulas hybridise. If you get primulas of the same section, such as the candelabra section, together you end up with hybrids. At the nursery we plant the different cultivars well away from each other to prevent crossing and untrues. Primuls are so notorious, that if you get seed from seed exchanges you should actually check to see if it is true-to-type. Primulas crop up in many different places—parks, bedding polyanths, pot primroses for Mothering Sunday, the lovely wild birds-eye primroses of the north of England and Scotland, and, further, North America.

Primulas start to flower as early as January. One of the first we have on the nursery is a form of *Primula megasaeafolia* collected recently by George Smith. It has large, deep magenta flowers, and comes from Turkey. Previously this species has been found to almost defoliate in winter and looks extremely scruffy, this is a much better collected form we got hold of last year and are now building up stocks. It flowers continuously from January through to March and in addition has super rounded leaves.