Acer capillipes Maximowicz (1867)

Hair-foot or Kyushu Maple

by Peter Gregory, with photographs by Hugh Angus

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Fall colors

The Hair-foot Maple is one of the most reliable, hardiest and desirable of the snake-barks. Vigorous when young, it throws out long slender red shoots which grow upwards like bamboos, eventually arching outwards and becoming a graceful medium-sized vase-shaped tree, up to 39-52ft (12-16m) tall in cultivation. It is also known as the Red Snake-bark or Red-shoot Maple because all the new growth in the spring is pink to scarlet. The inner bud scales emerge pink and elongate to become strap-like, yellowish and reflexed, persisting well into the early summer and giving the cheeky impression of being in flower a long time. The leaves, petioles and young shoots are all red to scarlet as they appear in May, the bright red persisting on the petioles throughout the growing season. The leaves often retain a red-bronzing on the margins and veins all through the summer.

The 3-5 lobed leaves have a characteristic dominant broad-triangular central lobe with a narrow pointed tip, and small sometimes inconspicuous shallow side lobes. The dominant central lobe, numerous hornbeam-like pairs of parallel lateral veins and curious tiny light-coloured membranous bridges or pegs in the vein-axils underneath, make *Acer capillipes* fairly easily recognisable.

In late May, strings of yellow-green flowers on very slender stalks contrast delightfully with the red of the petioles, etc. The shoots soon change to the lovely light stripey patterning on a green to grey-green background, which persists to old-age and is very conspicuous at all times. but especially during the winter months.

Female flowers

The resulting fruits are often pink-tinged and persist on the tree until the following spring. It is from the thread-like stalks of the flowers and fruits that this maple gets its name. “capillipes” is derived from capillaceous or capillaris - resembling a hair, or very slender.

Acer capillipes is an attractive tree at any time of the year but it is in the autumn it reaches its zenith, when the leaves turn a glorious mixture of colours - from yellow through to scarlet, sometimes all the colours are banded on single leaves. The impact of this colourful display is reinforced by the graceful hanging pink fruits against the bright snake-bark patterns of the arching branches and stem.

Distribution and Discovery

This desirable species is endemic to Japan, and grows on the lower-to-middle mountain slopes on moderately moist, well-drained and fertile soils along mountain streams, at 1,950-4,325ft (600-1,300 m) above sea level. It occurs on the main islands of Honshu and Shikoku, from southern Fukushima Prefecture, some 150 km north of Tokyo, southwestwards down to Tokushima Prefecture in northern Shikoku. However, *Acer capillipes* is mainly concentrated in a relatively small area of central Honshu, in the mountain areas around Tokyo, where it is quite common. It is sparsely scattered and very rare throughout the rest of its natural range. The wood of this maple is yellowish-white, rather light and soft, and is used for wood-shavings, chop-sticks, turnery, etc. The bark is tough and used for making ropes, raincoats, etc.

Typical snake bark

Acer capillipes was first discovered in the early 1860's by Surawa Tschonoski, a Japanese collector for the famous Russian botanist, Carl Maximowicz, who described and named it in 1867. Maximowicz, then assistant to Professor Bunge at the St Petersburg Botanic Garden, spent almost six years (1853-60) exploring the virgin forests of the Amur region and Manchuria. He then spent the next three years or so (1860-63) in Japan, landing at Hakodate on the northern island of Hokkaido, later travelling on to Nagasaki via Yokohama, to take up a university appointment. Foreigners were not allowed to travel beyond 32 km of the city at this time, so Maximowicz had to confine his own plant collecting within this limit. He neatly overcame this restriction by training his students and native Japanese and sending them out to collect material for him. Tschonoski may have been one of these collectors. They became very close friends and Tschonoski continued to collect and correspond with Maximowicz for the next 25 years, until the latter's death in 1891.

Introduction

The introduction of *Acer capillipes* into cultivation is attributed to Professor Sprague Sargent, Director of the Arnold Arboretum at the time, who brought back seed from his 1892 Japanese expedition, and sent young plants to the Royal Botanic Gardens, Kew, in 1894. He wrote, "On Mount Hakkoda, northern Hondo, where *Acer capillipes* is extremely abundant at elevations 2,000-3,000 ft above sea level, we found it in October growing as a stout bush or shrubby tree, 12-15ft in height, with delicate canary yellow leaves, and secured a supply of ripe seeds. Professor Sargent also landed at Hakodate, travelling on to Sophora where he met Professor Kingo Miyabe (of *Acer miyabei* fame). Like the Maximowicz/Tschonoskii association, they become close friends, exchanging plants and seeds for many years subsequently. Sargent also met James Herbert Veitch on this trip who, at that time, was plant collecting for the famous Veitch Nurseries. This also developed into many years of 'fruitful' friendship with seed, bulb and plant exchanges between the Arnold Arboretum and Veitch Nurseries. Veitch's Ernest 'Chinese' Wilson was eventually employed by Professor

Leaves and fruit

Sargent on several Chinese and Japanese botanical expeditions. Wilson later succeeded Sargent as Director of the Arnold Arboretum on the latter's death in 1927.

It is one of the hardier, most reliable and undemanding of maples, and easily propagated, so it is surprising to find it is not common in cultivation except in arboreta and large collections. The tallest in Britain can be seen at Winkworth Arboretum in Surrey. This was 16m (52ft) tall when last measured in 2000. Like most snake barks, it is not long-lived, seeming to have a life-span of 45-60 years in cultivation.

Classification

Acer capillipes, together with its close relatives *Acer rufinerve* and *Acer morifolium*, belongs to the popular snake-barks, Section *Macrantha*, with a total of 14 species - all Asian with the exception of *Acer pensylvanicum* from North America.

Leaves of A. capillipes

Beside the characteristic snake-bark patterning, species in this section are all deciduous small-to-medium sized trees or shrubs, with stalked buds, each bud with two pairs of valvate bud scales, the outer pair completely enclosing the bud. The leaves are unlobed to 5-lobed with numerous saw-teeth on the margins. The 6-25 flowered inflorescences are usually in pendulous strings but sometimes in outward-pointing clusters, They appear on terminal and lateral shoots. The greenish-yellow to greenish-red flowers have 5 sepals and petals, 8 stamens around the edge of a lobed honey-disc (intrastaminal). The fruits are usually small, with ovoid flattish nutlets and a dimple on one side.

Acer capillipes is fairly consistent in its features. Only one natural variation is now recognised in *Maples of the World - Acer capillipes* var. *fujisanense* Koidzumi (1911) - with smaller lobes than the type species. Its closest relative, *Acer morifolium*, is from the tiny islands of Yakushima and Tanegashima, the northernmost of the Ryuku string of islands, south of the major island of Kyushu. This was considered a subspecies of *A.capillipes* until recently. It has coarser almost unlobed leaves, and shorter sturdier racemes of flowers and fruits.

Acer capillipes has been confused with *Acer pensylvanicum* and *Acer rufinerve*. It is readily distinguished from these two species by the lack of rusty brown hairs on the leaf undersides, instead it usually possesses tiny membranous pegs or bridges or clumps of white hairs in the vein-axils. In addition, the one-year shoots of *Acer rufinerve* are conspicuously covered in a strong glaucous bloom whereas, if present in *Acer capillipes*, it is relatively faint.

Detailed Description

A medium-sized deciduous tree up to 65ft (20m) tall in the wild, but only 39-52ft (12-16m) in cultivation. It has an ascending spreading crown formed from long slender arching branches.. The bark is green to grey-brown with light-to-dark grey longitudinal striations and slightly fissured in old trees. Current shoots are light green to reddish or purplish-green, hairless, smooth, shiny, long and slender, sometimes with a slight bloom. There is a pair of silver-grey rings just above the base of each year's shoot, left by the previous year's bud. The shoots become a darker green with light-grey striations in the second and subsequent years.

The stalked buds are long ovoid with bluntly pointed tips – up to 10mm long x 3mm wide – glabrous, green with reddish bronzing on short light green stalks, and with a slight whitish 'bloom'. The buds are enclosed in two pairs of bud scales, the outer pair completely enclosing the inner. Frequently the terminal bud is absent, so the end pair of slightly curved lateral buds look like the horns of a viking helmet on the end of the shoot.

Leaves: Leaves 3-5 lobed, usually slightly longer than broad – up to 12cm x 10cm – leaf base rounded to heart-shaped. Lobes broadly triangular to ovate-triangular with narrowly tapered tips. Dominant central lobe much larger than the forward-pointing lateral lobes, basal lobes insignificant or sometimes absent. The lobe junctions (sinuses) are very shallow, the upper pair with rounded junctions, basal pair at right-angles when present. Venation yellow-green to red, palmately 3-5 veined, with 6-12 pairs of parallel lateral veins, becoming reticulate. Margins finely and irregularly double-saw toothed.

Pegs in the vein axils

Upper surface mid-to-dark green often with strong red bronzing on outer sides, glabrous. Lower surface mid-to-grey green, more or less hairless when fully developed, except for tufts of white hairs or characteristic tiny light mebraneous pegs or bridges in the vein axils. The leaves turn various shades of yellow to scarlet in the autumn. The stout petioles are glabrous, often bright to deep red, shorter than leaves - up to 6cm long x 2mm diameter - with a conspicuous central groove on the upper side. The petiole base is barely swollen.

Male flowers

Flowers: The greenish-white to yellow-green flowers appear towards the end of May with the leaves, on slender stalks, in pendulous arched 20-50 flowered simple tassels, on new shoots and subtended by one pair of leaves. Male and female flowers usually occur separately on different shoots, terminal or lateral, each tassel subtended by one pair of leaves. Each flower is saucer-shaped, 6-8mm in diameter, hangs on a very slender 8-15mm glabrous stalk, has 5 sepals and petals and (6-)8 stamens. Each sepal is pale whitish-to-yellowish green, ovate with rounded tip, and with a sparse fringe of short hairs around the top edge. The petals are fractionally longer and fatter, also with rounded tips but glabrous.

In the male flower, the stamens are fractionally longer than the perianth, with the yellow anthers on long pale filaments. The filaments are inserted on the outer edge of the round 8-lobed green disc (intrastaminate), which is slightly depressed in the centre. The pistil is usually absent. The green glabrous pistil of the female flower has a short style, with the long stigma split in two, each arm reflexed outwards and appearing above the perianth. The 8 much reduced inactive anthers on short filaments are part hidden beneath the perianth and stigmas.

Fruit: The fruits occur in numerous pendulous racemes, 10-40 samaras in each raceme, which is up to 12 cm long. The slender main stalk is reddish, glabrous, and just over 1mm in diameter. The secondary stalks are thread-like and about 1-1.5cm long. The small pink-to-straw coloured double samaras have the wings held at a wide angle. Each glabrous samara is 1.5-2cm long x 0.5cm wide, with a keel and only faint curved venation. The small wings have rounded tips and are widest about halfway, with a 'bow' in the keel and curved lower edge. The nutlets are fat and ovoid – 4-6mm long x 3-4mm wide x 2mm thick – with a dimple on one side. The fruits ripen in early October and usually persist on the tree until early spring.

Samara

Additional editing and layout by Emery Davis.