

***Acer distylum* Siebold & Zuccarini (1845)**

Lime-Leaved or Linden Leaved Maple

by Peter Gregory, originally published in The Maple Society Newsletter, Spring 1995



Photo Copyright 2018 Hugh Angus

Acer distylum is a Japanese species with very distinctive heart-shaped leaves, hence its common names. The leaf shape also gives rise to the Japanese name *Maruba kaede* which translates to “round-leaved maple.”. The lime tree-like leaves, when they emerge, are an unusually attractive downy light grey dusted with a sandy or pinkish hue, becoming a semi-shiny green as they develop, and then turning a clear bright yellow in the autumn. Other eye-catching features are the erect spike of small whitish-yellowish flowers and upward pointing fruits, both the flowers and fruits on stiff stems. The specific name *distylum* arises from the style being divided more or less at the top of the ovary.

This small to medium-sized maple is perfectly hardy, fruits freely and the seeds are viable. Yet it is fairly rare in cultivation outside Britain and, even there is seen in only a few gardens and collections. A tree measured in 2004 at the Royal Botanic Gardens in Edinburgh measured 33ft (10m). Cuttings can be rooted, but successfully weaning the cuttings can be a challenge.

Distribution and Discovery

Not only is it rare in cultivation and difficult to obtain even from specialist nurseries, this species is also uncommon in its native Japan, occurring only in the northerly two-thirds of the main island of Honshu. Nowhere is it abundant, and it is very scarce in the extreme north and south of its range. This stretches from the Kii Mountains, Wakayama Province in the south to the lower slopes of the Dewa Mountains, Akita Province, in the north. It grows on moist and moderately fertile soils at the feet and on the sides of mountain slopes, usually in the upper temperate zone between 2,275-5,200ft (700-1,600m) a.s.l. It occurs at the lower elevations at the extreme north of its range.

I have not seen in the literature who first discovered *A. distylum*. This distinction probably belongs to Dr Phillip von Siebold because *Flora Japonicae Familiae Naturales*, in which it was first described and named by himself and Professor Joseph Gerhard Zuccarini in 1845, dealt mainly with plants Siebold had collected during his eventful stays in Japan between 1823 and 1830. Professor Maximowicz obtained material collected by Tschonoski in Senano and Nambu in 1864. The Reverend Faurie found it in about 1889, as did Ernest Wilson while on an expedition to Japan for the Arnold Arboretum in 1914.

Specimens from these last three expeditions are in the Kew Herbarium.



Photo Copyright 2018 Hugh Angus



Photo Copyright 2018 Hugh Angus

Charles Maries came across the lime-leaved maple during his 1877-9 Japan/China Expedition, and brought it back for Veitch Nurseries, who were responsible for its introduction into cultivation. One of the original trees growing in the Veitch Nursery's Coombe Wood, Surrey, produced seed each year from an early age, and had reached 30ft (9m) in height in 50 years. Maries was educated at Hampton Lacy Grammar School when the headmaster was George Henslow, son of the eminent botanist Professor John Stevens Henslow, who inspired and encouraged Charles Darwin in his studies and

travels leading up to the *Origin of Species*.

In his confidential annual report, Sir James H. Veitch described Maries as "... Enthusiastic but lacking in staying power." - an effective promotion blocker!

It was James Veitch who played a major role in organising the 1912 International Exhibition - the catalyst which initiated the Chelsea Flower Show the following year, and for which he was knighted. What other nursery has had a greater impact on horticulture and our garden plants than the remarkable Veitch Nurseries. Over a period of 65 years, they financed and organised plant hunting expeditions all over the world. Beside Maries, they sent out almost two dozen collectors, from William Lobb to the Americas in 1840 to Ernest Wilson in China between 1899 and 1905, plus including three members of the Veitch family. During this time they introduced into cultivation many thousands of plant species from every continent except Europe and Antarctica, including 1,250 new species of garden and conservatory plants.



Photo Copyright 2018 Hugh Angus

Classification

The Japanese *A. distylum* and *A. nipponicum*, American *A. spicatum* and Chinese *A. caudatum* are considered to be the most primitive species in the maple genus, all belonging to the Section *Parviflora*. *A. distylum* is placed in the monotypic Series *Distyla*. It cannot be confused with the other three species in the section which all have coarsely and irregularly lobed leaves.

The leaf of *A. distylum* is similar to that of *A. sikkimense* and the unlobed *A. davidii*. These two species can be easily distinguished by the distinct double-toothed leaf margins, pendulous flower and fruit chains, stalked winter buds and conspicuous snakebark patterning on the shoots and stems.

The leaf margins of *A. distylum* are shallowly toothed, it has upright spikes of flowers and fruits, and the winter buds are unstalked. The leaf shape shows little variation, usually like a lop-sided lime tree leaf but just occasionally is oblong-ovate. This uniformity is highlighted by the lack of synonyms and absence of cultivars, though *Maples of the World* mentions there is a variegated form 'Fuiri kouri kaede' reported in cultivation in Japan.

The leaves of *A. distylum* are more likely to be mistaken for those of *Davidia*, *Tilia* or *Idesia* than any other maple, but the shallow toothed leaf margins and paired arrangement of the leaves on the shoots easily

distinguish it. The other three genera have distinctly sharp teeth and the leaves are arranged alternately along the shoots.

Detailed Description

A small to medium-sized tree with a broad open crown, growing to 33-49ft (10-15m) tall. Sometimes it forms a wide-spreading tree-like shrub. The bark is lightly furrowed, and varies between grey, greyish yellow to greyish brown. Current shoots are slender, covered in short light brown hairs when first appearing, becoming sparsely hairy by late summer, except around the nodes. The shoots are lightish green at first, becoming yellowish green with red or brown bronzing on the upper or exposed sides. There are small round raised lighter brown lenticels scattered over the shoot surface.

The shoots become grey-brown to brown with shallow fissuring in the second year, and the raised lenticels become darker with a central split visible. Hairs are often still present on the second year shoots, especially at the nodes. The leaf scars are very narrowly crescent-shaped and ridged, each pair of scars more or less encircling the shoot, with the ridges forming an upward pointing arrow pattern between the buds. In addition, there is sometimes a slight vertical ridge visible for a short distance down the stem from between the two buds.



The dark red to light reddish-brown or yellow-brown buds are ovoid to long ovoid with slightly pointed tips and covered in short brown hairs. Terminal buds are 8-10mm long x 3-4mm wide, with the lateral buds (except those on either side of the terminal bud) only slightly smaller and pressed along the shoot. Each bud has two pairs of valvate bud scales. The outer scales are ovate, narrowing evenly to a pointed sometimes hooded tip, and covered in short light brown hairs on the outside.

Photo Copyright 2018 Hugh Angus



Leaves : The almost leathery lime-like leaves are simple, unlobed with deeply heart-shaped often lop-sided leaf-bases, and with short tail-like pointed tips - up to 16cm long x 13cm wide but usually smaller. The margins have shallow fairly regular bluntly tipped teeth, sometimes giving an almost scalloped appearance to the margins. The strong yellow-green venation consists of a midrib with 6-10 pairs of parallel lateral veins, which become coarsely reticulate. The midrib and veins near the leaf-base are occasionally reddish.

Peter Gregory

When first emerging, the leaves are a pink to sandy grey and covered in soft light brown hairs, the leaves soon becoming mid to dark green, sometimes bronzed and almost hairless above, and the undersurface becomes light green with a slight sheen, with short light brown hairs along the veins and in the vein-axils. The leaves turn a clear light to golden yellow in the autumn.

The stout yellow-green, sometimes red bronzed, petioles are round and much shorter than the leaves - up to 6cm long - and covered in short light brown hairs at first, then becoming almost hairless. There is a short centre groove on the upper side of the barely swollen petiole base.



Photo Copyright 2018 Hugh Angus

Flowers : The yellow flowers appear in mid-May to early June in erect few-flowered spikes, 5-10cm long x 1.5-2cm across, on terminal and lateral shoots subtended by one pair of leaves. Each flower is on a slender stiff 3-5mm long stalk (pedicel). The main stalk (peduncle) is covered in light to rusty brown hairs. Male and female flowers appear on the same tree and, frequently, on the same flower spike.

Each flower is saucer-shaped with 5 yellow ovate sepals and 5 broader petals. Each sepal is hairy on the outside and is 1.5mm long x 1mm wide. Each petal is the same length x 1.5mm wide, ovate with a rounded tip. The filaments of the 8 stamens are inserted on the edge of the notched receptacle disc (intrastaminal). They are much shorter in the female flowers. The pistil has the style split more or less at the top of the ovary. It is vestigial or reduced to a central tuft of hairs in male flowers.

Fruits : The fruits are held on stiff narrow erect spikes - 6-11cm long x 2.5-4cm across, bearing 2-12 double samaras on stiff yellowish stalks, the latter covered in orange-brown hairs at first and then becoming hairless. Each samara (nutlet + wing) is 2.5-3cm long, with the wing 8-10mm wide at the broadest point near the centre, and narrowing evenly to 5-7mm at the nutlet junction. The wing is keeled and only faintly veined. Each nutlet is thick, ovoid and covered in light brown hairs at first, then becoming hairless - 6-7mm long x 4-6mm wide x 3-4mm thick. The paired wings are acutely angled, varying from almost parallel to almost right-angled, and with the rounded wing tips pointing skywards. The fruits become an even yellowish straw colour as they ripen in the autumn.



Photo Copyright 2018 Hugh Angus



Photo Copyright 2018 Hugh Angus