Opposite, Chollipo Arboretum team collecting seed of *Kalopanax septemlobus* from a rural residential courtyard in South Korea, 1979.

Right, The typically araliad and ivy-like flowers of *Kalopanax septemlobus* in the Stadsträdgården, Karlstad, Sweden. August 2021.

Tree of the Year: *Kalopanax septemlobus*

TOM CHRISTIAN

Introduction

Castor aralia *Kalopanax septemlobus* (Thunb.) Koidz. is a polymorphic yet distinctive tree of the ivy family distributed across a large swathe of east Asia, from hot sticky south-central China to cold harsh Sakhalin. Within its native range it has long been valued for its timber, medicinal properties, and ornamental qualities.

For many years this tree was known as *Kalopanax pictus*, indeed this name is still frequently encountered, but for some time now *K. septemlobus* has been the accepted, correct name. The circumstances that prompted this change are improbably complicated (and are implicit in another complex and contentious problem concerning the correct name for painted maple, *Acer pictum*). It is apposite to expand on the nomenclatural history of castor aralia here, see 'taxonomic note' below.

Introduced to western cultivation in the late nineteenth century, castor aralia has proven itself an adaptable tree in temperate gardens, growing freely in about as broad a range of conditions as could be hoped for, and amply earning its keep thanks to an impressive roll call of ornamental qualities in addition to its undeniable 'curiosity' value.

And yet, it has never come to enjoy anything like the same profile as so many other Asian trees in western gardens. Even many who know it eschew it in favour of the more floriferous, the less spiky, the more delicate, or just something more 'interesting', and it remains about as remote from the mainstream now as it did at the time of its introduction. A tendency to invasiveness, particularly in the north-eastern USA, may render its obscurity a blessing, but where it may be safely grown it is truly a tree for geeks, deserving of greater appreciation.

On meeting it for the first time many beginner dendrologists are still taken aback to discover that in *Kalopanax* the Araliaceae counts among its ranks a true temperate tree rather than merely arborescent shrubs. This is a large family of predominantly woody plants, distributed mostly in the tropics and sub-tropics with a few temperate outliers. Many of these hardy outliers have long been grown in specialist collections in temperate regions, but few have ever become widespread, and for many years only the ivies themselves could be deemed truly significant in cool-temperate gardens.

All that has changed in recent decades, though, as horticultural tastes, at least in the north, have made a decidedly warm-temperate shift, lured first by the irresistible appeal of *Heptapleurum* (recently split from *Schefflera*) and then by several of its relatives, to the extent that the family is now better represented in northern gardens by introductions of the past 30 years than it had ever been

Kalopanax septemlobus at the Royal Botanic Garden Edinburgh, sent from Nanjing in 1934 (accession 19340276*A). June 2020. This tree succumbed to honey fungus in 2023.

in the preceding 120. To a limited extent *Kalopanax* has benefitted from this uplift of interest in the family.

It is an established pattern, however, that a surge in horticultural interest in an under-studied group of plants usually precedes taxonomic upheaval, and gardeners will feel this keenly in Araliaceae for some time as ongoing research continues to necessitate changes to its generic level classification. Fortunately, most of the hardy outliers, including *Kalopanax*, are amply distinct, and one hopes they are relatively safe from the taxonomist's sword.

Recent phylogenetic work on Araliaceae indigenous to China shows *Kalopanax* to be sister to a subclade comprising *Macropanax* and *Metapanax* (Li & Wen, 2016) but previous studies have inferred a closer relationship to *Eleutherococcus* (Lowry *et al*., 2004). Certainly, horticulturists would find greater commonality between *Kalopanax* and *Eleutherococcus*, and Mabberley recently sank *Kalopanax* into *Eleutherococcus* (Mabberley, 2017) but this treatment has not enjoyed popular support and it seems most are content to continue to afford the castor aralia recognition as a distinct genus.

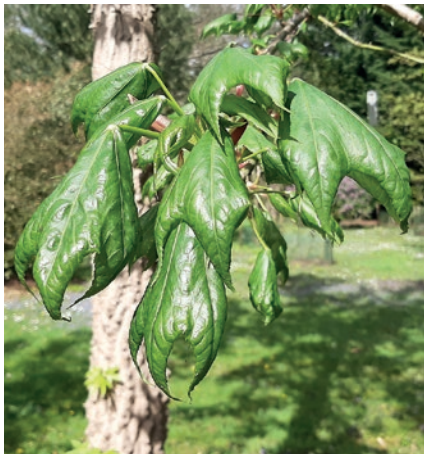
The impressive bole of Nanjing *Kalopanax septemlobus* at Edinburgh (accession 19340276*A) June 2020. In memoriam.

Description

Kalopanax septemlobus (Thunb.) Koidz., Bot. Mag. (Tokyo) 39: 306 (1925)
Synonyms:
Acanthopanax septemlobus (Thunb.) Koidz. ex Rehder,
Man. Cult. Trees: 859 (1927)
Eleutherococcus septemlobus (Thunb.) Mabb., Mabberley's Pl.-Book,
ed. 4: 1101 (2017)
Acer septemlobum Thunb., J.A. Murray, Syst. Nat. ed. 14: 912 (1784)

Tree to 30 m tall, trunk to *ca*. 1.2 m dbh; usually single-stemmed but prone to suckering in disturbed ground. Bark thick, grey to grey-brown, soon developing longitudinal ridges, prominently ridged and furrowed on old trees, occasionally detaching in thick plates. Branches terete, stout, ascending to

photographs © Tom Christian



spreading with numerous stiff broad-based prickles persisting for several years. Leaves simple, alternate, suborbicular, borne on long and short shoots, often crowded near the ends of shoots; lamina 9–25(–35) cm across (largest leaves occur on juvenile trees) usually broader than long, coriaceous, upper surface glossy green, glabrous, lower surface pale green, glabrous or with whitish tomentum on veins and in axils near base; palmately 5–7-nerved, each nerve terminating in an ovate-triangular to oblong-ovate lobe, apex of lobes acuminate, sinuses varying greatly in depth from shallow notches in margin to deep divisions suggesting digitate leaves; base sub-cordate, margin serrate. Petiole slender, reddish green, 8–50 cm long, glabrous or with scattered whitish tomentum especially near base, united with stipules, sheathed at base. Inflorescence terminal, a many-flowered panicle of umbels 18–25 × 20–30 cm; peduncle 2–6 cm, slender, glabrous; umbels 1–2.5 cm across; pedicels 5–10 mm, glabrous or slightly pubescent, not jointed below ovary. Calyx 5-toothed, teeth short. Petals 5, valvate, white or yellowish green. Stamens 5. Styles 2, 1.5–2 mm, united at base. Ovary 2-carpellate. Fruit a drupe, dark blue to nearly black at maturity, subglobose, 3–5 mm across, with a juicy pericarp. Seeds 2(–3) per fruit, flat, prominently ribbed on one side. Flowering Jul–Aug, fruiting Sep–Oct (China). 2n = 48. (Xiang & Lowry 2007; Bean 1981; Ohwi 1965).

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A form with leaves with elongated lobes of *Kalopanax septemlobus*, here growing in secondary forest at an altitude of 1,100 m in Toyama Prefecture, Japan.

Opposite, *far left*, entire foliage on the Nanjing tree at Royal Botanic Garden Edinburgh (accession 19340276*A) June 2020.

Opposite, *right*, unfurling leaves on an 'entire' leaf form, growing happily in shallow chalk soils at Pampisford, Cambridgeshire, UK. May 2021.

Right, *Kalopanax septemlobus* 12453*A at the Arnold Arboretum, showing good autumn colouring.

photographs © President and Fellows of Harvard College, Arnold Arboretum Archives/ William (Ned) Friedman

Kalopanax septemlobus 841-81*A at the Arnold Arboretum, Boston, Massachusetts.

Taxonomic note

Thunberg was the first botanist to describe castor aralia, in 1784, but mistook it for a maple and named it *Acer septemlobum*. Despite placing it in the wrong genus the rules governing botanical nomenclature mean that Thunberg's is the oldest validly published specific epithet for castor aralia and thus has priority. The Araliaceae family has always been plagued by taxonomic uncertainty and even its infrageneric classification remains unstable; over the centuries castor aralia collected over two-dozen synonyms as botanists placed it in genera including *Acanthopanax, Brassaiopsis, Panax* and *Tetrapanax*. Miquel published the genus *Kalopanax* in 1863 and included castor aralia in it as *K. ricinifolius*, based on Siebold & Zuccarini's name *Panax ricinifolius*; Japanese botanist Hideo Koidzumi made the combination *K. septemlobus* in 1925, correctly giving priority to Thunberg's epithet of 1784, but two years later another Japanese botanist, Takenoshin Nakai, published the name *K. pictus*,

Fruit of *Kalopanax septemlobus* 841-81*A at the Arnold Arboretum.

and in a remarkable reversal of Thunberg's error of 1784 mistakenly applied this name to a specimen of the maple now known as *Acer pictum*! This left botany with the issue of how to typify *A. pictum*, a problem which rumbled on through much of the twentieth century, during which time this maple became widely known as *A. mono* while *K. pictus* became the given name for castor aralia. Despite appeals in the 1990s and early 2000s to reject the name *Acer pictum*, which could arguably have paved the way for the conservation of *K. pictus*) panels rejected the appeals and conserved *A. pictum* (Crowley 2020). This clarified, at last, that the correct name for castor aralia is *K. septemlobus* (Thunb.) Koidz.

Distribution

- China: Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hebei, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Liaoning, Shaanxi, Shandong, Shanxi, Sichuan, Yunnan, Zhejiang
- Japan: throughout
- North Korea: throughout
- South Korea: throughout
- Russia: maritime regions of the Russian Far East near Vladivostok, to a northern limit in southern Sakhalin

Although well documented from southern Sakhalin where it reaches 47°N, *Kalopanax* would seem to have a more sporadic distribution on the adjacent Russian mainland where it is probably restricted to coastal areas to no more

than about 44–45°N. Climate change is set to increase the amount of available habitat in the region, however, and may see northward migration particularly on Sakhalin (Korznikov 2019).

The list of provinces for China is taken from *Flora of China* (Xiang & Lowry, 2007). In the far northeast, as in adjacent Russia, *Kalopanax* is likely restricted to areas with a strong maritime influence; this would explain its apparent absence from provinces like Jilin and Heilongjiang.

The Gaoligong Shan Biotic Survey Expedition of 2004 collected herbarium material under the number 19632 from Mujiajia village in Yunnan (27.443°N, 98.820°E) just 12 km from the border with Myanmar. One sheet deposited at Edinburgh (E00509394) has since been determined as *Kalopanax*. While this does not represent a range extension for the species, it does push its known limit tantalisingly close to an international border, and it would not be surprising, given what is known of its ecology, if in the future records do emerge from northern Myanmar.

Another curious herbarium record, again from Edinburgh (E00042498) is a Frank Kingdon-Ward specimen from eastern Arunachal Pradesh, India, *KW*

Kalopanax septemlobus (centre) growing on Sorak Mountain, South Korea, 1989.

19377, collected 6 May 1950 at *ca*. 1524 m asl. Originally collected as *Brassaiopsis* sp., it was determined as *Kalopanax* by H. J. Esser in 1997. The specimen is sterile and Kingdon-Ward's notes tell us he saw only two trees and that neither had flowers nor fruit. If this specimen is confirmed it would represent a range extension in the Sino-Himalaya.

Habitat

Over its vast range *Kalopanax* occurs in a broad range of forest habitats, from near sea-level to over 2,500 m asl, in distinctly warm-temperate regions of southern China and southern Japan characterised by hot humid summers and mild winters and species-rich forests, to parts of northern China and northern Japan and maritime regions of the Russian Far East characterised by short, cool summers and long, cold winters and relatively low levels of species diversity. *Kalopanax* is found across this vast region as a scattered component of primary and secondary forests, usually only in abundance following major disturbance.

A floristic survey of *Metasequoia*'s habitat in Hubei, made quite soon after its discovery in the late 1940s, noted *Kalopanax* as a component of remnant forest together with *Acer davidii, Betula luminifera, Castanea segunii, Cephalotaxus fortunei, Cercidiphyllum japonicum, Cunninghamia lanceolata, Cyclocarya paliurus, Castanea seguinii, Fagus sinensis, Idesia polycarpa, Lindera glauca, Liquidambar acalycina, Nyssa sinensis, Pterocarya hupehensis, Quercus acutissima, Rhus* spp., *Sassafras tzumu, Styrax japonicus, Tapiscia sinensis,* and *Ulmus multinervis* (Chu & Cooper, 1998). Its occurrence here suggests some tolerance of periodic flooding and of water table fluctuations.

Elsewhere, in more mountainous habitats, soils will typically be moist but well drained and *Kalopanax* will still be only an occasional component of mixed forest. The source of the recent collection *EIKJE* 172 (sourced in Nagano, Japan, 2013) was an isolated tree in forest dominated by *Quercus crispula, Betula* and *Acer* spp. (pers. obs.). *Kalopanax* is quite common on the lower slopes of Mt Tsurugi (Shikoku, Japan) in deciduous forest dominated by *Fagus crenata, Pterocarya rhoifolia* and *Acer pictum*. Large examples are concentrated in edge habitats where the forest has been disturbed and subsequently managed, principally to provide and maintain access infrastructure for the thousands of tourists who visit this popular peak every year (pers. obs., 2013).

In the Russian Far East, near Vladivostok and on Sakhalin, *Kalopanax* occurs in coniferous or mixed coastal forest dominated by *Abies sachalinensis* and *Picea jezoensis* or by *Quercus mongolica* and *Tilia amurensis*. Other minor or localised components of these forests include *Abies holophylla*, *Acer pictum*, *Betula platyphylla*, *Phellodendron amurense* and *Picea glehnii* (Korznikov *et al*., 2019).

Conservation

Kalopanax does not appear to have been formally assessed for the IUCN Red List, but with such a huge range any global assessment would place it in the

Kalopanax septemlobus growing in secondary forest consisting mainly of *Fagus crenata* and *Quercus crispula* at an altitude of 1,100 m in Arimine, Toyama City, Toyama Prefecture, Japan.

category 'Least Concern'. Nevertheless there are reports of extensive harvesting (see 'uses' below) and of illegal harvesting in South Korea (Lee & Kang, 2002).

Uses

Writing over 100 years ago Henry Elwes (1913) observed 'its timber is little valued', particularly in China, but he made no direct observation about its uses in Japan, whereas a USDA forest service memo dated 1957 paints a different picture. It records that in Japan sen (the local name for *Kalopanax* timber) is used 'in general construction and the manufacture of cabinets, furniture, interior trim, carved items, chests, handles, plywood, musical instruments, boats, and numerous miscellaneous articles. In the United States it is used primarily in the form of plywood for paneling [sic.] and doors' (Kukachka, 1957).

The same report highlights its value as a veneer and observes that on Hokkaido sen accounted for 21% of the native hardwood veneer timber production in 1949, when 'stumpage on Hokkaido island amounted to 467 million cubic feet'. The timber is described as nondurable, suitable only for indoor work (Kukachka, 1957).

More recent interest in *Kalopanax* has focussed on its medicinal properties. It has long been valued in traditional medicine for its anti-diabetic, anti-inflammatory, antinociceptive, anti-rheumatoid and anti-fungal properties, and has been widely used in the treatment of relevant conditions (Lee & Kang, 2002). It contains a number of triterpenoid saponins, a group of bitter-tasting

and usually toxic compounds involved in defending plants against pathogens and herbivores (Lee *et al*., 2020), and the leaves have been shown to contain high concentrations of compounds with potential application as a natural source of antioxidants (Han *et al*., 2012).

Introductions to cultivation

The first introduction to western cultivation was probably that of the Russian botanist Carl Maximowicz, who introduced seed to St Petersburg from his 1860–1864 visit to Japan. Maximowicz is unlikely to have encountered *Kalopanax* during his earlier work in the vicinity of the Amur River in Russia's Far East, where he botanised *ca*.1854–1856, with much of the area he covered being well beyond the species' known northern limit at *ca*. 47°N in southern Sakhalin.

From St Petersburg material was soon sent to several other European countries, reaching the Belgian horticulturist Louis van Houtte in 1864 and probably arriving in England at about the same time (Elwes & Henry, 1913). Further seed collections soon followed, including from the Baltic German scientist Carl Friedrich Schmidt who collected seed on Sakhalin in September 1866 (Schmidt, 1868). The French nurseryman Alphonse Lavallée sent a living plant to the Arnold Arboretum in January 1881 and the Arboretum's Director Charles Sprague Sargent later collected seed on his first expedition to Japan in 1892 (Port, 2014). By the late nineteenth century nurseries and seed merchants operating from Japan for the benefit of western markets were regularly offering *Kalopanax* (Boehmer & Co., 1899).

Wilson collected *Kalopanax* several times during his Chinese expeditions, both for the herbarium and as seed (Sargent, 1916), but there is little evidence to suggest these collections ever resulted in meaningful numbers of plants, their perceived value perhaps being undermined by the species' ready availability in commerce by this time. Chinese botanic gardens would soon be yet another source of fresh introductions: Nanjing Botanic Garden was supplying material in the 1930s, including to the Royal Botanic Garden Edinburgh where material from Nanjing was accessioned in 1934.

In recent years multiple expeditions have sampled *Kalopanax* from across its range, including from Guizhou and Zhejiang in China, Sakhalin in Russia, Odaesan in South Korea, and from across Japan; all these provenances are represented in collections in the UK, Belgium, and elsewhere.

Reception and performance

Even at the time of its introduction *Kalopanax* had all the hallmarks of stardom, yet despite the praise it has received from numerous dendrologists this status has always eluded it. Accounts of it are rare in nineteenth century literature. After seeing it in Sakhalin Schmidt remarked that it was 'a beautiful tree' (Schmidt, 1868) and the horticulturist Louis Böhmer later called it 'a handsome

tree, especially when in flower, and [it] has almost a tropical appearance' (Böhmer, 1876).

Subsequent commentators have made much of this tropical appearance, including Wilson, who included it in his roll call of *Aristocrats of the Garden*, observing: 'The Kalopanax…is one of the noblest trees of the cool temperate regions […] The large and handsome palmate leaves give this tree a tropical appearance yet it is perfectly hardy and quick-growing […] As a lawn tree or as a specimen tree by side of water it is unsurpassed' (Wilson, 1917). Charles Sprague Sargent agreed with his colleague, writing 'It is one of the most interesting trees in [the Arnold Arboretum] […] so unlike other trees of the northern hemisphere' (Sargent *in* Port, 2014).

A little later Donald Wyman, Head of Horticulture at the Arnold Arboretum, included it in his essay *Forty-five of the Best Trees for Massachusetts Gardens* but lamented that it remained 'as yet very rare in American gardens' (Wyman, 1952). Indeed, the Arnold seems to have waged a one-arboretum crusade to popularise this tree in New England in the early to mid-twentieth century, culminating in 1972 when it was one of ten taxa offered as a 'reverse birthday present' to celebrate the arboretum's centenary (Port, 2014). Yet for all these efforts, *Kalopanax* has remained stubbornly unpopular, planted only by the relatively few who seek out the unusual.

An exasperated Wyman later attempts to understand the disinterest: 'Still only listed by one nursery (as far as can be determined) this fine tree…has been distributed many times […] The seed takes two years to germinate, one of the reasons why many a plant grower becomes overly impatient and passes it up' (Wyman, 1956).

In Europe, too, there is a relative paucity of specimens. Even in the UK and Ireland the Tree Register lists only 45 noteworthy individuals in its public-facing database.

The British dendrologist Alan Mitchell seems to have had mixed feelings about *Kalopanax*. The account in his book *Trees of Britain* uses such adjectives as 'strange', 'gaunt', 'spiky', 'eccentric' and 'bizarre' to describe it. It was for this publication that Mitchell coined the common name prickly castor oil tree, later expressing regret for having done so upon learning that the Americans were already using the 'more civilised' moniker castor aralia (Mitchell, 1996).

Regardless, this tree has always been too-seldom grown to warrant extensive league tables of the best and largest in different parts of the world. About 30 m is regularly cited as its climax height in native forests, with a dbh of up to 1 m, rarely more. The largest in cultivation are probably those grown in the UK and Ireland: 20 m × 65 cm dbh in Surrey, England; with others to 18 m tall in locations as disparate as Surrey and Worcestershire in England, Peeblesshire in Scotland, and Kildare in Ireland. In North America the largest are probably those remaining from Sargent's 1892 gathering in Japan at the Arnold Arboretum – 15.8 m with a canopy spread of over 23 m in 2014 (Port,

2014), although there have been bigger, to 17 m × 67 cm dbh *ca.* 1980 (Jacobson, 1996). In Belgium, a tree at Arboretum Tervuren had a dbh of 60 cm in 2020, but its height was not recorded; there are other fine examples at Kalmthout and Herkenrode which frequently produce a few seedlings (BelTrees; pers. obs.).

Cultivation

A brief survey of cultivated trees quickly paints castor aralia as a hardy, adaptable, and thoroughly un-fussy tree. Examples in North America and northern Europe, including some very cold areas of the UK, quickly banish any question that it is anything other than bone hardy. It is also perfectly tolerant of heat: Philippe de Spoelberch successfully grows *Kalopanax* at Les Mourgues in the south of France where temperatures regularly reach 40 °C and drought conditions are frequent (P. de Spoelberch pers. comm.; pers. obs.) but it is possible that the trade-off in such conditions is a reduced lifespan.

In the UK mature trees may be found in collections on deep, fertile, humus-rich soils such as those at Dawyck Botanic Garden, Peeblesshire, and on shallow soils above solid chalk, such as at Pampisford, Cambridgeshire; it grows as cheerfully in areas with high rainfall as it does in the driest parts of these islands, and young plantings in several rather wet sites are thriving, too (pers. obs.).

Nevertheless, in some soil types, castor aralia is possibly sensitive to rapid fluctuations in the water table. The tree from Nanjing, accessioned at the Royal Botanic Garden Edinburgh in 1934, had to be deaccessioned as this article was being finalised in March 2023: three successive spring-summer droughts had taken their toll and in its weakened, stressed state, the tree was rapidly succumbing to *Armillaria* (W. Hinchliffe pers. comm. 2023).

Yellow autumn colour on *Kalopanax septemlobus* at Dawyck Botanic Garden, Scotland.

Castor aralia is cultivated in Australia where there are multiple specimens in collections throughout the southeast, and where it is seemingly a more precocious flowerer than in the cooler climate of northwest Europe. It is very rare in New Zealand (G. Church pers. comm.).

Propagation by seed is straightforward, but without treatment seed will usually require two winters to germinate. Root cuttings are another easy means of propagation, as is the removal of suckers which mature trees will produce sporadically, and

young trees in abundance in response to damage (which has proven a disadvantage in attempts to eradicate young trees from natural areas in the USA).

Kalopanax has demonstrated a remarkable ability to recover from major arboricultural interventions: a specimen at Leckmelm, near Ullapool on the northwest coast of Scotland, was pollarded in 2013 and has recovered beautifully (pers. obs.).

Invasiveness

For all the efforts of their predecessors to popularise *Kalopanax* in North America, staff at the Arnold Arboretum today are probably quite grateful for their failure. Seedling recruitment has been known for some time but in recent years the species has shown a tendency to invasiveness in various parts of

This divided leaf form (formerly f. *maximowiczii*) has recovered well from a high pollard at Leckmelm near Ullapool, Scotland. September 2021.

the northeast. A study at the University of New Hampshire found thousands of volunteer plants all probably traceable to a single individual planted in 1972: these levels of recruitment, taken with the species' extraordinary shade tolerance as a seedling, potentially very rapid growth, and its ability to sucker, especially when damaged, all contribute to legitimate concerns about its continued use as an ornamental, at least in the north-eastern USA (Lee *et al*., 2017).

A programme of deaccessioning *Kalopanax* at the Arnold Arboretum started in 2010, with seven accessioned individuals removed in the first phase to 2012 (Port, 2014). In early 2023 three mature individuals remain at the Arnold, retained for now due to their historic and landscape value: two derived from Sargent's 1892 collection in Japan (accessions 12453*A and *C); and another traceable to Nanjing Botanical Garden via the US National Arboretum (accession 841-81*A) (M. Dosmann pers. comm. 2023; and see under 'reception and performance', above). Dosmann, Keeper of the Living Collections at the Arnold, sums up his own mixed feelings for this species which will likely resonate with many others who grow or admire it: 'On the one hand, I'm a big fan. And yet, because it is notable in its ability to wander and take root in natural areas, I'm wary of recommending it for widescale cultivation.' (M. Dosmann pers. comm.). These North American experiences should sound a warning to those who grow this tree elsewhere, especially where some seedling recruitment has already been observed such as in Belgium (K. Camelbeke pers. comm.) and south-east England (pers. obs.).

Infraspecific taxa

Botanists and horticulturists alike have always acknowledged that *Kalopanax* is a variable tree, no more so than in its leaves which may have very broad, shallow, acuminate lobes separated by nearly indiscernible sinuses (hereafter referred to as 'entire' forms), or elongated lobes with sinuses dividing the lamina nearly to the base ('divided' forms). In between these two extremes lies an entire spectrum of variation. Horticulturists in pursuit of the exotic aesthetic tend to favour divided forms, but this is an unpredictable plant; while divided forms seem to be the norm in contemporary commerce, ordered blind from a nursery there is no predicting what will turn up.

Both entire and divided forms were included in Maximowicz's original introduction from Japan; the Belgian horticulturist Van Houtte raised a single plant of the divided form from the seed packet sent from St Petersburg in 1864 and considered it so remarkably different from other seedlings he named it *Aralia maximowiczii* in 1874. Some permutation of the name *maximowczii* has been used by horticulturists ever since to distinguish divided-leaf forms from entire ones, but, as is so often the case, contemporary research has pulled the rug of legitimacy out from under this concept by demonstrating that none of the macromorphological variations that are of such interest to horticulture warrant any sort of taxonomic distinction.

Foliage of *Kalopanax septemlobus* Maximowiczii Group silhouetted against a grey July sky, 2020 at Dawyck Botanic Garden, Scotland – note the characteristic bark.

Chang *et al*. (2003) investigated 20 morphological characters across 126 specimens representing the full geographic range of *Kalopanax* and concluded that 'No clear distinction could be found between material assigned to the previously recognized var. *maximowiczii*, and to var. *septemlobus*, and forms intermediate in leaf morphology between these two taxa suggested that they should be united […] The results of this study indicate a continuum in leaf morphology among the previously recognised infraspecific taxa. This continuum is especially evident in leaf lobing and pubescence, characters traditionally used to define infraspecific taxa'.

These findings agree, more or less, with Ohwi's treatment of the genus in his *Flora of Japan* (Ohwi, 1984) which recognised only var. *lutchuensis*, a glabrous form restricted to the Ryukyu Islands of southernmost Japan. Ten years later Ohashi clarified various aspects of nomenclature and revised the infraspecific taxa at the same time, following Ohwi in recognising only var. *lutchuensis* but elevating it to the rank of subspecies to give us the taxonomy now followed by several major reference works, including *Plants of the World Online*.

Unfortunately, redundancy of the name *maximowiczii* is unlikely to go down well with anybody who grows or sells plants previously placed here, such is their distinctiveness compared with entire-leaf forms, but Chang *et al*. are emphatic in their rejection of any taxonomic recognition. An alternative approach would be to establish a Cultivar Group, which I do here to provide growers with a legitimate alternative, but it would be preferable to select the best divided forms and give them formal cultivar names and perpetuate these clones in gardens via vegetative propagation. The best are certainly extraordinary, and could give many *Heptapleurum* (*Schefflera*) a run for their money!

***Kalopanax septemlobus* Maximowiczii Group**
Any form of *K. septemlobus* with lobes divided to at least halfway down the lamina of adult leaves.

Conclusion – a C-list tree
If you believe that trees have feelings then the principal emotion of castor aralia is probably indignation. Despite being introduced to western cultivation around 1865, and an extraordinary ability to grow almost anywhere, it remains marooned on that roll call of trees that deserve to be better known and more often grown in temperate gardens. After years of being overlooked, it has decided to strike back and become a problem species in some areas.

Nobody should plant one unless they are prepared to grub it out at a moment's notice, but in areas where it hasn't shown a tendency to invasiveness it remains thoroughly worthy of planting. Many eminent dendrologists have extolled its exotic, almost tropical appearance, largely rendered by the handsome foliage, but its viciously armed stems add interest through the winter months, too. The bark of mature trees can be attractive, their autumn colour can be superb, and the flowers and fruit, when produced, add intrigue to beauty, especially in the cool-temperate zone where the ivy family is rarely thought of as tree-forming.

It is easy to propagate and easy to grow, so cannot be labelled 'difficult'. It is as happy on shallow chalk soils as in a deep acid loam; it can take baking heat and prolonged drought, a cool climate and waterlogging. It thrives in the south of France and in the north of Scotland and in southern Scandinavia, forming a handsome tree when left alone and responding cheerfully to major pruning when this is necessary.

Why then, when it has so many merits, has fame and glory always eluded *Kalopanax*? Is it those vicious spines that cover the young wood and puncture all but the most dextrous of hands when one must be potted on or planted or, heaven forbid, pruned? Admittedly it can be hard to come by, but if it were in demand the nursery trade would ensure supply. Could the unfortunate confusion that once prevailed regarding its correct name be part of the problem?

No, as is so often the case logic has nothing to do with it. *Kalopanax* is a superb subject for a larger garden, park, or urban planting scheme, but it has never inspired the same enthusiasm as so many other trees, unable to compete with the romance of *Davidia*, the lure of *Emmenopterys*, or the fame of *Metasequoia*, but it is in such company that this tree belongs, an unsung hero.

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Tree of the Year 2023
For 2023, the chosen taxon is *Magnolia denudata*, Magnoliaceae. Please send any information or comments to Tony Aiello at: aiello6915@gmail.com