

THE TREES OF WARWICKSHIRE, COVENTRY AND SOLIHULL

PART 2 - SPECIES ACCOUNTS FOR GYMNOSPERMS (CONIFERS), PALMS, GINKGO AND TREE FERNS

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Spanish Fir, Billesley



The trees (alphabetical by scientific name)

Abies – True Firs (Silver Firs)

Mostly tall (when mature), evergreen conifers with needles that are joined to the shoot by round, green 'suckers', quite unlike any other similar conifer genus. The needles tend to have two bright whitish stripes beneath and the tips are variously pointed, blunt or notched. Douglas firs *Pseudotsuga* are not true firs and lack such suckers, whilst spruces *Picea* (which are superficially similar to firs) have their needles joined to the shoot by a small wooden peg. The cones, when produced, are held upright (like *Cedrus* cedars) and typically disintegrate whilst on the tree, which means you can rarely check fallen ones for the useful identification characters they can contain. Critical features to check include precise needle shape, length and colour, the density and orientation of the needles on the shoot, whether the shoot is downy, grooved and its colour, bud colour and stickiness, bark characteristics, and the general shape of older trees. No firs are native to Britain, but they are widespread across the northern hemisphere, with about 200 species in total. The key in Mitchell (1978) helps in the determination of some species.

Abies alba – European (Common) Silver Fir

Source: Mountains of Europe, including the Pyrenees, Alps and within the Balkans. Introduced to Britain in 1603.

Distribution: This was once a frequent timber tree in local woods, but seems to be very rare today if not extinct.

Further Notes: Originally introduced to Britain as a fast-growing timber tree. It was once the fastest growing conifer in British forestry and held the national height record until the 1960s when the various American giants such as Douglas Fir overtook it. However, planting largely ceased after 1850 when it was discovered that it is very susceptible to severe aphid attack, and few survive in southern Britain today. The moderately long needles (up to 3cm) with bluntish tips bearing a small notch, arranged rather loosely around an ungrooved shoot, help to distinguish *A. alba* from most of the other silver firs found locally, which either have more pointed leaves, denser leaves or shorter, blunter leaves. Caucasian Fir *A. nordmanniana* is very similar but has denser leaves with a less flattened arrangement on the shoots and sticky buds (buds not sticky in *A. alba*).

Key locations for seeing some: Historically recorded from Warwick Castle Park (Lodge Wood, 1956, girth up to 2.92m, teste Tree Register); also noted from Hampton in Arden (1 Meriden Road teste S. Apted, late 1980s – though this seems to be a Caucasian Fir listed below).

Abies bornmuelleriana – Bornmüller's Fir

Source: N Turkey. Date of introduction to Britain unclear.

Distribution: Rare locally and within Britain as a whole.

Further Notes: Very similar to the more widely planted Caucasian Fir *A. nordmanniana*, from which it is apparently most easily identified by the possession of a small white patch on the upperside of the needles at the tips and totally smooth, reddish-brown shoots (usually with hairs and greener or greyer-brown in *A. nordmanniana*).

Key locations for seeing some: Parkridge Centre, Brueton Park, Solihull (north edge of garden – images checked by Owen Johnson who agrees they probably are of *bornmuelleriana*).

***Abies cephalonica* – Grecian Fir**

Source: The mountains of Greece. Introduced to Britain in 1824.

Distribution: Very rare locally.

Further Notes: The stiff, sharply-pointed leaves are arranged all-around the shoot, often at almost 90 degrees, and have particularly large suckers at their bases, combined with smooth reddish shoots.

Key locations for seeing some: Parkridge Centre, Brueton Park, Solihull (near the Bornmüller's and Korean Firs). An old record exists for Warwick Castle (Fox's Study, 1956, 1.63m GBH) though it could not be found there in 2006.



The foliage of silver firs can be very attractive and distinctive. Here are four of the more frequent species: Noble Fir (top left), Caucasian Fir (top right), Colorado White Fir (bottom left) and Spanish Fir (bottom right).

***Abies concolor* – Colorado White Fir**

Source: The Rocky Mountains from Idaho to Mexico. Introduced to Britain in 1873.

Distribution: Occasional in local parks and cemeteries.

Further Notes: The needles are particularly widely spaced on the shoots, long, cylindrical and curved upwards. With a bit of experience it is instantly recognisable – indeed it can look quite pine-like from mid-distance, such is the length of the needles. A number of cultivars exist and we have specimens that

vary from very green to very silvery (form 'Violacea'). Form 'Lowiana' (Low's Fir) is an intergrade of *A. concolor* with *A. grandis* and can resemble the latter. The foliage of *A. concolor* smells of lemons when crushed.

Key locations for seeing some: Brueton Park, Solihull (several young ones near the Parkridge Centre close to several other *Abies* species); Warwick Cemetery (several young ones, ranging from green-leaved to very pale blue-leaved); Warwick Castle (in west car park); Ashorne Manor (a young one in car park); Bitham Hall (one beside drive, 1.50m/2006); Talton House near Newbold on Stour (a couple); Bedworth Almshouses Quadrangle (some young ones); Bitham House, Avon Dassett (woods beside entrance drive); Hampton in Arden (a *lowiana* in Hampton Manor Wood - teste S. Apted, late 1980s).

Largest local specimen: possibly Warwick Castle car park (1.55 GBH/2006 [check identity](#)).

***Abies fraseri* – Fraser Fir**

Source: The Appalachian mountains of east USA.

Distribution: Only a single known local site.

Further Notes: A fairly nondescript *Abies* closely related to the more widespread Balsam Fir *A. balsamea*. A popular Christmas tree in parts of the USA.

Key locations for seeing some: Keresley House, Coventry (a young one).

***Abies grandis* – Grand (Giant) Fir**

Source: Western N. America from Vancouver to N. California. Introduced to Britain in 1832.

Distribution: Widespread in our area, usually in parks, mixed woods and larger gardens.

Further Notes: An attractive, relatively distinctive fir, typically with long leaves (up to 5cm) arranged in a rather flat plane on either side of the smooth green or brown shoot, though they can be shorter and arranged all over the top of the shoot on some lower, weaker branches. The small bluish buds, pleasant tangerine smell of the crushed foliage and particularly smooth pale grey upper bark (with scattered raised bumps) are also useful clues. This is a very fast growing, neatly conical tree when young with elegantly upcurved branches reminiscent of Norway Spruce, though it tends to become rather narrow and shapeless with damaged tops in the tallest specimens. It can attain a height of 100 metres in its native area and the tallest British ones have attained 60metres in little over 100 years. It is often the tallest tree in Warwickshire woods, protruding well above surrounding trees and signalling its presence even from a distance (e.g. at Whichford and Oversley Woods). It does not normally suffer from severe aphid attack like *A. alba* (although the Jephson Gardens specimens show some aphid damage) and has replaced it as a forestry tree in some areas. Seedlings have been observed growing at Oversley Wood.

Key locations for seeing some: Formal and urban locations: Compton Verney (a large one of 2.24m GBH/2006 and medium-sized one near the car park); Jephson Gardens, Leamington (three medium-sized ones); Priory Park, Warwick (a medium-sized one near the County Record Office); Brueton Park, Solihull (several); Warwick Castle (some very fine ones in Fox's Study, largest

2.92m GBH/2007); Stoneleigh Abbey (a medium-sized one near the river); Cryfield Grange near Crackley (a large roadside one); Stareton (a large one beside Bee Hive Cottage); Kenilworth: a fine one near junction of Castle Hill & Malthouse Lane) and several along Crewe Lane, including within the arboretum; Newnham Paddox Art Park (east of Lower Pool, 2.60m/2007); Bitham Hall, Avon Dassett (east of entrance drive, 2.90m GBH/2006 and extremely tall); Umberslade Hall (a fine one, 3.23m GBH/2007). **Woodlands:** Oversley Wood, near Alcester; Thickthorn Wood Kenilworth (beside main ride in middle of wood see below); Grove Wood, near Stoneleigh Abbey (a small group at the south end of the wood); Whichford Wood near Whichford (several along south edge); Wainbody Wood North, Coventry (several).

Largest local specimen: Thickthorn Wood, Kenilworth (4.74m @ 1.20m/2008. trunk forking @ 4m).

***Abies homolepis* – Nikko Fir**

Source: Mountains of S Japan. Introduced to Britain in 1861.

Distribution: Just a few specimens locally.

Further Notes: One of the best clues to this fir are the very pale grooved, hairless shoots which give rise to needles typically bearing blunt, notched tips (though two young local specimens have predominantly pointed needles). Most other firs with notched leaf tips (e.g. Caucasian Fir *A. nordmanniana*) have smooth or hairy shoots without grooves. This is one of the best *Abies* for the more polluted air of towns and cities.

Key locations for seeing some: Solihull College (two fine tall ones by the grounds office seemingly grafted onto the bases of *A. alba*); Compton Verney (a medium-sized one of 1.64m GBH/2006 in car park); Warwick Cemetery (two young ones, one with many pointed needles); Priory Park, Warwick (a young one behind police station with predominantly pointed needles), Brueton Park (a medium-sized one in pinetum zone, 1.09m GBH/2006).

Largest local specimen: The larger Solihull College specimen (1.65m GBH/2007, the smaller one is 1.46m).

***Abies koreana* – Korean Fir**

Source: S. Korea and Cheju Do Island. Introduced to Britain in 1913, but only discovered to science in 1907.

Distribution: Occasional in local parks and gardens but becoming more popular as a conifer because it does not grow too large.

Further Notes: A relatively distinctive fir, due to the very short, blunt leaves with brilliant white undersides and the upright habit of the shoots. The form normally grown here is a small, slow-growing tree that produces a fine display of upright blue cones from a young age.

Key locations for seeing some: Jephson Gardens (north edge close to the Keaki and buckeye); Miners' Welfare Park, Bedworth; Parkridge Centre, Brueton Park, Solihull (a couple at north end of gardens that struggle to produce cones); Ragley Hall Gardens; Baginton (one in a front garden in village not far from the Baginton Oak); Keresley House, Coventry (a young one but with many cones); Warwick Castle (two young ones at far end of Fox's Study); Talton House near Newbold on Stour (a medium-sized one near the large London Plane).

Largest local specimen: a specimen in the Parkridge Centre, Brueton Park, Solihull (not yet measured).



Silver fir cones are usually too high to appreciate, but they are an attractive and conspicuous feature of the much smaller Korean Fir (left), which is sometimes found in local parks and gardens. Grand Fir (right) is one of the tallest local conifers, its crown usually extending well above other trees in any wood where it grows (this group is at Oversley Wood).

***Abies lasiocarpa* – Cork (Subalpine) Fir**

Source: Western N America (Arizona to Colorado). Introduced to Britain in 1903.

Distribution: Only two local sites known. Quite scarce nationally.

Further Notes: One of a few silver firs with bluish or grey-green foliage (Noble Fir *A. procera* has much denser, strongly upcurved needles). From a distance it could easily be overlooked as a Blue Colorado Spruce *Picea pungens* but is a much more neatly conical tree when young with the characteristic *Abies* suckers at the base of the needles. The shoots are pale brown and finely hairy and the buds are obscured by thick resin. The needles have blunt tips, two whitish stripes below and a greyish band above. The bark eventually becomes corky (hence its name), though this is not yet obvious in local trees, which are still young. Our young trees appear to be of the form 'Compacta' which is much shapelier and bluer than the wild form.

Key locations for seeing some: Brueton Park, Solihull (several in the pinetum zone); Warwick University (one in the Westwood Campus).

***Abies nordmanniana* – Caucasian Fir**

Source: W Caucasus Mountains and NE Turkey. Introduced to Britain in 1848.

Distribution: Scattered specimens in our area, mostly as large Victorian trees in older parks and gardens, but recently planted in several parks and cemeteries.

Further Notes: The relatively long (for an *Abies*), straight leaves are usually slightly notched at their tips, have two very bright whitish stripes below and are borne on smooth brown shoots at an orientation of about 45 degrees, with numerous ones above the shoot, but few below. They remain attached to branches for many years, typically producing very dense foliage that extends close to the ground. The bark of mature trunks is broken onto squarish plates and the overall shape is generally tall and narrow but with a full crown. A number of similar species exist. *A. alba* has similar needles, though these are less dense and arranged in a flatter plane either side of the shoot and *A. bornmuelleriana* has a small white mark at the tips of the needles which are often arranged at 60 degrees or more to the shoot. Caucasian Fir is increasingly sold locally as a Christmas tree, usually under the name of Nordmann's Fir.

Key locations for seeing some: Victorian specimens: Walton Hall (two specimens near the main entrance, 2.71m and 2.39m GBH/2006); Station Road/Meriden Road junction, Hampton in Arden (a fine tree seems to be this species though it has been listed as *A. alba* in the past); Wootton Court Spinney, Leek Wootton (a couple, the largest 2.67m GBH/2006); Farnborough Park (a fine one in field near the rose garden, see below); Ettington Park (beside entrance drive, 2.70m GBH/2006); Warwick Castle (one towards river near the Swamp Cypresses); Dunchurch Church Cemetery (a fine one of 2.13m GBH/2007 adjusted for ivy); Elmdon Park, Solihull (in woods near the Church, though foliage hard to see from below), Newnham Paddox Art Park (2.30m GBH/2007); Haseley Manor (one of 2.60m GBH/2007). Younger specimens: Warwick Cemetery (a young one appears to be this species but has particularly long needles); Brueton Park, Solihull (a young one at south end near the Brewer Spruces); Keresley House, Coventry (a couple of young ones); Ansty Church (a medium-sized one); Shrewley (an abundant component of a Christmas tree plantation close to the Grand Union Canal near 'High Chimneys').

Largest local specimen: Farnborough Park (3.07m GBH/2006).

***Abies numidica* – Algerian Fir**

Source: Mt Babor, Algeria. Introduced to Britain in 1862.

Distribution: Rare locally.

Further Notes: One of very few firs with stripes on the tops of the needles as well as below, and densely arranged needles orientated at 90 degrees or more to the shoot. Compared to Spanish Fir *A. pinsapo*, the only other local species showing these features, *A. numidica* has flatter, blunter tipped needles, much brighter white stripes on the undersides of the needles, and needles of variable length on the shoot, with those above the shoot being much shorter than the lateral ones.

Key locations for seeing some: Henley in Arden (Beadesert) Church - a fine specimen just behind the church building (see below); Studley Castle (1.80m GBH/2007); Kenilworth Cemetery (a young one close to main entrance in 2007).

Largest local specimen: the Henley in Arden specimen (2.43m GBH/2006).

***Abies pinsapo* – Spanish (Hedgehog) Fir**

Source: S Spain, with wild populations restricted to just a few stands around Ronda in the Sierra Nevada, and possibly N. Africa (these regarded as a separate species by some authorities). Introduced to Britain by 1839.

Distribution: A few local specimens, usually within Victorian plantings associated with historic properties.

Further Notes: This silver fir has very short, almost cylindrical and somewhat upcurved stiff needles with bluntly pointed tips (never notched), with two white stripes below each leaf and a weaker pair of stripes above. The leaves radiate at 90 degrees or more at all angles from the brownish shoot creating a very distinctive appearance. They also have particularly large suckers at their bases. Algerian Fir *A. numidica* (also found locally) is most similar but has flatter, blunter, straighter needles with brighter white stripes below and browner bark. Vilmorin's Fir *A. x vilmorinii* is a rather variable hybrid between *A. pinsapo* and Grecian Fir *A. cephalonica* and has longer more pointed needles.

Key locations for seeing some: Billesley, Manor House Farm (a large and conspicuous roadside tree with a forked top, 2.97m GBH/2006); Ettington Park (two beside entrance drive); Moreton Morrell Real Tennis Club (a very fine one of 3.38m GBH/2007 and 22m high), Moreton Manor (a smaller, but tall one overhanging the churchyard) and possibly Moreton Hall (in gardens SW of Hall but foliage out of reach); Packington Park (2.06m GBH/2006 in gardens west of Hall); Shuckburgh Park (a double-trunked one behind Hall, trunks 1.60m and 1.30m GBH/2007); Alne House, Great Alne (one in front garden, easily seen from the road close to the junction with Park Lane). An old record exists for Warwick Castle (Fox's Study, 1955, though it was not found here in 2006) and a specimen at Wootton Court Spinney, Leek Wootton was blown down in 2006-07.

Largest local specimen: in hard girth terms, the largest Ettington Park specimen (3.50m GBH/2006) but the girth is affected by a low fork, and the 3.38m Moreton Morrell Tennis Club tree, with a long clean trunk, is much more impressive.

***Abies procera* – Noble Fir**

Source: NW USA, along the Cascades and a few coastal areas of Washington and Oregon. Introduced to Britain in 1830.

Distribution: Occasional in local parks and gardens, mostly as young trees, though a few Victorian specimens still survive.

Further Notes: One of the most beautiful firs, growing into a very tall tree with silvery-blue foliage that becomes confined to the top of mature trees, making close examination difficult. However, if the foliage can be examined it will be seen to comprise bluntly-pointed, upcurved bluish-grey leaves that are so densely arranged that they completely obscure the shoot from above. With a bit of experience the foliage is instantly recognisable. Older foliage is often green. This species is occasionally sold as a Christmas tree in Britain (it is the main Christmas tree in some European countries) and its shoots are often used in making Christmas wreaths here. The foliage of Blue Colorado Spruce *Picea pungens* (a popular species in local parks and gardens) can be a similar colour to that of Noble Fir, but that tree has a very different silhouette and its needles are always connected to the shoots by a wooden peg rather

than a green sucker. Cork Fir *A. lasiocarpa* also has bluish foliage, but the needles are much sparser and straighter, and do not obscure the shoot. The upright cones of *A. procera* are larger than any other local *Abies* and are often produced by young trees just a few metres tall.

Key locations for seeing some: Victorian specimens: Walton Hall (two near the main entrance with two Caucasian Firs nearby); Ragley Hall Gardens (a fine one of 2.97m GBH/2006); Umberslade Hall (one at edge of garden W of Hall close to a fine Grand Fir, 2.38m GBH/2007); Haseley Manor (1.66m GBH/2007); Barton House, Barton on the Heath; Oversley Wood (one in the arboretum area). Younger specimens: Warwick Cemetery (a couple of young ones, one with accessible cones); Warwick Road, Kenilworth (a young tree with several cones in front garden just north of the Rouncil Lane junction); Jephson Gardens, Leamington Spa (a young one SE of the fountain pool but dying in 2007).

Largest local specimen: The larger Walton Hall specimen (3.10m GBH/2006).

Abies x vilmorinii* - Vilmorin's Fir – see under *A. pinsapo

***Araucaria araucaria* - Monkey Puzzle or Chile Pine**

Source: The Andes within Chile and Argentina (on the slopes of some dormant volcanoes). Introduced to Britain from 1795 (but with a big influx of seeds in 1844).

Distribution: Fairly frequent in our area, particularly in larger parks and gardens. Still being planted.

Further Notes: *Araucaria* species are primitive conifers found in the southern hemisphere. Only one of the thirty-odd species, the Monkey Puzzle, grows happily outdoors in Britain. It is a striking tree, quite unmistakable, and some large Victorian specimens can be found in our area. Several of the trees on Bitham Hill near Avon Dassett have suckered to form smaller satellite trees around the main trunk.

Key locations for seeing some: Bitham Hill, Avon Dassett (about twenty large ones of Victorian origin NW of Bitham Hall, largest measured was 2.94m GBH/2007 with several others nearby exceeding 2.50m); Stoneleigh Abbey (a fine one near river, 2.41m GBH/2006); Elmdon Park, Solihull (a couple, the largest 2.38m GBH/2007); Hampton Manor, Hampton in Arden (a couple of fine ones, the largest 2.48m/2006); Alcester (grounds of St Nicholas Church, 2.06m GBH/2007); Leamington Spa: Jephson Gardens (a couple of young ones) and junction of Warwick Street and Clarendon Street (a more mature one); Warwick: Myton Crescent, (a fine one of 2.60m GBH/2008) in garden at NW end of crescent); Warwick School (2.16m/2007); Kenilworth: Kenilworth Library (a young one near entrance) and Fernhill Farm (a fine one of 2.62m GBH/2007 beside footpath); Rugby: Caldecott Park (a couple) and Hillmorton Road (fine one in a front garden); Wootton Court Spinney, Leek Wootton (several); Willoughby (one in Lower Street); Coventry: London Road Cemetery and Coundon Court School (two at latter including one exceptional specimen, see below); Radford Semele (one beside A425); Berkswell Hall (one of 2.50m GBH/2007); Ettington Manor (one of 2.38m GBH/2007); Shuckburgh Park (a 2.31m GBH/2007 specimen close to the church).

Largest local specimen: Coundon Court School, Coventry (3.12m GBH/2008).



A fascinating group of Victorian Monkey Puzzles growing on Bitham Hill near Avon Dassett. You can see them from the M40.

***Araucaria heterophylla* – Norfolk Island Pine**

A relative of the Monkey Puzzle from Norfolk Island in the South Pacific, near New Zealand. A potted specimen exists at Keresley House, Coventry. In Britain it can only survive outdoors on the Scilly Isles, though it is one of the most conspicuous conifers of the Mediterranean.

***Calocedrus decurrens* - Incense Cedar**

Source: Western N America from Oregon to California. Introduced to Britain in 1853.

Distribution: Occasional in local parks, larger gardens (especially those featuring Victorian planting), churchyards and cemeteries. It is still being added to new schemes.

Further Notes: Most mature specimens are fairly distinctive from other conifers on the basis of their height and very narrow shape, but the occasional Lawson Cypress *Chamaecyparis lawsoniana* 'Erecta Viridis' (a 'poor-man's Incense Cedar') can cause confusion. However, *Calocedrus* has rather different foliage with flatter, shinier sprays bearing longer scale leaves and no pale markings below. If you rub the foliage it should give a turpentine or shoe-polish smell as opposed to a parsley or resin one. The distinctive cones are flask-shaped like a *Thuja* but even larger (2.5cm long) and open into three sections that resemble a clam with a flat tongue between the shells (and very

different to any *Chamecyparis*). It is only the cultivated form that has the narrow growth form - it is a much broader tree in the wilds of the USA. Most local trees have very dense upwardly swept foliage, though a few local specimens, which may be over-mature, have sparse untidy foliage or drooping shoots that create a very different appearance (e.g. specimens at Springfield House, Temple Balsall and The Firs, Stratford). Some local specimens have exposed trunks, but in others the foliage almost reaches the ground.



An Incense Cedar at London Road Cemetery. It is one of the most fastigate (upright) cypresses. The cones allow easy separation from similar-looking Lawson Cypresses like 'Erecta Viridis'.

Key locations for seeing some: Coombe Abbey (several large ones in and around the arboretum, largest 3.65m GBH/2006, but beware the similar Lawson 'Erecta Viridis' also here); Leamington Spa (a tall one at the north end of Northumberland Road and another beside Kenilworth Road nearby); Packington Park (several fine ones in the garden west of the Hall, largest 4.35m/2006, planted by the Princess of Wales in 1874); Wroxall Abbey (two fine ones, largest 3.90m/2006); Walton Hall (a large one, 3.10m/2006, west of lake); Haseley Manor (several medium-sized ones); Charlecote Park (a fine one in the sensory garden); St Ann's Church, Wappenbury (a fine one, 2.98m/2006); Brueton Park, Solihull (large one in the Parkridge Centre and a small one in the pinetum zone); Moreton Hall; London Road Cemetery (several near chapel); Springfield Centre, Temple Balsall (one of 2.58m/2006); Warwick Castle (some young ones); Linen Street, Warwick (top end of road, resembles a *Leylandii*); The Firs Gardens beside Rother Street, Stratford (a tall one with unusually drooping shoots, creating the appearance of a narrow Lawson Cypress); Newnham Paddox (a couple, the largest 4.78m/2007); Berkswell Hall (one of 3.82m/2007); Keresley Church (a

medium-sized one); Barton House, Barton on the Heath (several medium-sized ones).

Largest local specimen: Honington Hall (a massive one in the garden, 6.27m @ 1m/2007 and 6.16m around base, almost 25m high), one of the largest British specimens according to TROBI).

***Cedrus* – True Cedars**

True cedars, as opposed to various unrelated conifers loosely termed 'cedars', are huge (when mature), evergreen conifers, with slender needles arranged in whorls, and large erect cones that take two years to mature. Only larches *Larix* have similar foliage, but they lose their leaves in winter and have very different cones. *Abies* firs have large erect cones but very different foliage. All four cedar species can be found in Warwickshire. To identify them, look at the shape of the tree, the length and colour of the needles, droopiness of the shoots, colour of the bark and precise shape of the cones. In the wild, cedars grow in mountainous regions between the Atlas Mountains of North Africa and the western Himalayas.



Warwickshire has some splendid cedar specimens including this Blue Atlas Cedar at Ragley Hall (left) and this Deodar at Bitham Hall (right).

***Cedrus atlantica* - Atlas Cedar**

Source: The Atlas Mountains of Algeria and Morocco. Introduced to Britain in 1841.

Distribution: Fairly common in parks and cemeteries, both the in green 'wild' form and the blue form 'Glauca' (Blue Atlas Cedar), with the latter increasingly popular in gardens.

Further Notes: Most cedars with very blue ('glaucous') foliage will be this species, though Cedar of Lebanon can occasionally be equally blue (notably

one at Compton Verney). But Atlas Cedar never produces the layered foliage so characteristic of Cedar of Lebanon, and never has the soft, pendulous shoots of Deodar. Typically it develops a rather triangular shape with rigid shoots that give its silhouette a spiky outline. The cones have a slight sunken dimple at the top. 'Pendula' and 'Pendula Glauca' have drooping branches, usually in the form of a '2D' curtain, but otherwise typical foliage. 'Fastigiata' is a narrower tree. One occasionally finds specimens with both blue and green foliage on one tree (e.g. at Bitham Hill, Avon Dassett).

Key locations for seeing some: Coventry: War Memorial Park (an avenue of 'Glauca' near the café), Allesley Park (many) and London Road Cemetery (several fine ones, largest 3.28m GBH/2006); Coombe Abbey (some fine ones north of the Abbey); Leamington Spa: Victoria Park (one growing beside a Deodar by the river), Jephson Gardens (a young 'Glauca' near the Glass House); Stratford Riverside Park (some fine ones, largest 4.34m GBH/2007); Knowle (a large 'Glauca' outside the Parish Church, 3.69m/2006); Priors Hardwick Church (3.48m/2006); Warmington Church (a fine 'Glauca', 4.20m/2006); Brueton Park, Solihull (young ones close to a Deodar); Stoneleigh Abbey; Warwick: St Nicholas Park and Warwick Castle; Compton Verney (a fine one E of the lake, 3.92m/2006); Ragley Hall Gardens and Park (some fine ones, mostly 'Glauca'); Haseley Manor (largest 4.27m @ 1.30cm/2007); Ettington Park (a green one, 4.07m/2006); Leek Wootton Police HQ (three specimens exceeding 5.0m, see below); Bitham Hill E of Avon Dassett (a row of mature ones west of Bitham House, including one green tree with a blue-leaved branch); Moreton Hall (two fine ones in front of Hall); Keresley House, Coventry (a fine 'Glauca', 4.70m @ 2m/2007 above a low side branch); Studley Castle (several fine ones, the largest 5.32m @ 80cm between two side branches); Umberslade Hall (a fine one in garden W of Hall, 5.59m @ 70cm becoming 5.08m @ 1.5m above a side limb). Pendula: Caldecott Park, Rugby. Pendula Glauca: Caldecott Park, Rugby; Brueton Park, Solihull (very sickly in 2006). Fastigiata: Keresley House, Coventry (on owner's 2007 plant list, but not seen by the author).

Largest local specimen: Woodcote House, Leek Wootton (the largest specimen is 5.88m @ 0.6m/2007 and 5.29m @ 2.2m above the lowest side limb), one of the largest specimens in Britain according to TROBI.

***Cedrus brevifolia* – Cypress Cedar**

Source: The Tripylos Mountains of W. Cypress. Introduced to Britain in 1879.

Distribution: Rare locally.

Further Notes: A relatively small, slow growing *Cedrus* with very short needles (7-15mm). It is sometimes regarded as a variety of *C. libani*, though the general appearance is often more like that of a small or sickly *C. atlantica*. However, both these species typically have needles of 20mm or more.

Key locations for seeing some: Crewe Lane Arboretum, Kenilworth (a medium-sized specimen planted in the late 1960's); Ashorne Manor (a young one at S corner of main garden).

***Cedrus deodara* - Deodar**

Source: The Western Himalayas. Introduced to Britain in 1831.

Distribution: Frequent in local parks, cemeteries, larger churchyards and gardens, and occasionally as a street-side tree. Mature ones are especially numerous in Leamington Spa.

Further Notes: A large, attractive, dark green conifer, typically developing a rather triangular shape with each branch giving rise to numerous drooping shoots. Young trees have particularly pendulous shoots. The bark of mature trees tends to be blackish and finely square-cracked with age. The cones have a flattened top. 'Pendula' is a small weeping tree that retains very pendulous shoots and is often planted in smaller gardens. 'Aurea' has yellowish foliage. This is one of the most conspicuous trees in Leamington Spa, perfectly complementing the Regency/early Victorian architecture of the town.

Key locations for seeing some: Leamington Spa: Jephson Gardens (many), Pump Room Gardens, Victoria Park, Kenilworth Road and various other places (many mature specimens, plus some young ones); Meriden (many along the Fillongley Road; Warwick: Warwick Castle (some fine Victorian ones) and Myton Crescent (a fine multistemmed one of 5.25m @ base/2008 in garden at NW end of crescent); Ashow village (in a front garden at north end); Brueton Park, Solihull; Coventry: London Road Cemetery, Allesley Park, Wilsgrave Church and Binley Church; Stratford: Holy Trinity Church (with some Atlas Cedars nearby) and Guild Street (outside Mothercare); Wootton Court Spinney, Leek Wootton (some very fine ones, largest 4.25m GBH/2007); Bitham Hall, Avon Dassett (a multi-stemmed specimen on lawn, 7.0m girth @ ground level/2006 but with several discrete trunks forming very low down, like a coppice stool); Ashorne Hill Conference Centre (a good trunked specimen of 4.51m GBH/2006). Pendula: Brueton Park, Solihull (a small one near the Parkridge Centre). Aurea: Moreton Hall, Moreton Morrell (W of terrace gardens); Warwick University (some young ones in zone 3). **Largest local specimen:** Priors Hardwick Church (6.26m @ 1.20m waist/2007, a solid lower trunk forking @ 2m, which has clearly increased its girth).

***Cedrus libani* - Cedar of Lebanon**

Source: The mountains of Lebanon, Syria and S Turkey. Initially introduced to Britain in 1640, though the oldest surviving British trees date from 1740.

Distribution: Fairly frequent locally in historic parks and gardens and the occasional cemetery. Not quite as numerous as the other two large cedars, probably because it takes up a lot of space.

Further Notes: Usually distinctive as a mature tree - a very broad canopy comprised of discrete flat planes of foliage, with big gaps between each plane and much trunk showing. However, some specimens can approach Atlas Cedar *C. atlantica* in appearance, but the needles of *C. libani* are typically 3cm long compared with 2.5cm in *C. atlantica*, the cones lack a dimpled tip and *C. libani* is also more prone to having multiple trunks. Some of the trunk bases of the Compton Verney and Farnborough trees are amongst the largest tree trunks in Warwickshire even though they are less than 300 years old. This tree is the national emblem of Lebanon and is featured on the flag. Form 'Glauca' has pale blue foliage like Blue Atlas Cedar. Form 'Compe de Dijon' is columnar and thus resembles *C. atlantica*. The oldest Warwickshire specimens date from the mid-1700s and are often a feature of Capability

Brown landscaping (e.g. at Coombe Countryside Park, Packington Park, Charlecote Park, Upton House and Compton Verney).



Arguably our two finest Cedar of Lebanons, a 'trunked' specimen at Farnborough Hall (left) and a multi-stemmed one at Compton Verney (right). The latter is one of the largest in Britain and presumably dates from Capability Brown's landscaping of the mid eighteenth century.

Key locations for seeing some: 18th century specimens: Compton Verney (a variety of forms, including some of the finest specimens in Britain, some dating from the mid-1700s); Charlecote Park (some fine ones near the House, largest one 5.57m GBH/2006 and probably dating from the 1760s); Packington Park (several in gardens W of Hall, largest 6.15m/2006 and probably dating from the 1750s); Farnborough Park (a massive one beside Hall probably dating from the 1740s, see below); Wroxall Abbey (several fine ones, the largest 6.20m/2006 and presumably derived from the original Hall); Warwick Castle (some fine ones, the largest 4.41m @ 1m/2007 and said to date from Brownian planting in the 1750s, though surprisingly small for this, and several much larger specimens of more obvious Brownian origin appear to have been lost since the 1950s); Upton House (some fine ones S of house probably dating from the 1760s); Shuckburgh Park (several old ones, the largest 6.70m GBH/2007 close to church). **19th century specimens:** Stratford: W bank of Avon beside the weir, Holy Trinity Church (a rather poor one) and Shakespeare Birthplace garden; Jephson Gardens, Leamington Spa (a fine one in the NE corner); Barford (a large one by the mini roundabout on the A429 and another in front of the Glebe Hotel nearby);; Ettington Park (two fine ones, the largest 5.70m/2006); Binley, Coventry (Willenhall Lane); Parkridge Centre, Solihull (overlooking Brueton Park); Southam (a fine one at north end of Abbey Lane). **Glauca:** Compton Verney (a magnificent one on the approach to House); Stoneleigh Abbey (beside gate house); possibly Packington Park. **Compe de Dijon:** Crewe Lane Arboretum area, Kenilworth (E of the farmhouse).

Largest local specimen: Multistemmed: Compton Verney – a massive lakeside specimen, girth 10.56m at ground level/2007 and 10.30m above two low side branch, one of the largest in Britain. Single-stemmed: a massive specimen beside Farnborough Hall (8.0m girth @ 2m/2006 above a low side branch).

***Cephalotaxus fortunei* – Chinese Plum Yew**

Source: E and central China. Introduced to Britain in 1848.

Distribution: Only a single local site known.

Further Notes: A shrubby conifer resembling a yew but with much longer (4-8cm), arched needles arranged neatly alongside the shoots. These are soft and not at all prickly (in contrast to the coniferous 'Nutmegs' *Torreya* which look very similar). Mature trees produce plum-like fruit in bunches of 3-5.

Key locations for seeing some: 'The Yews', Moreton Paddox (two young bushy ones).

***Cephalotaxus harringtonia* – Plum Yew**

Source: Japan, Korea and N China. Introduced to Britain in 1829.

Distribution: Only a single local site known.

Further Notes: Resembling *C. fortunei* but with smaller, duller leaves.

Key locations for seeing some: Arbury Hall (one shrubby specimen W of Hall near the large Fern-leaved Beech).

***Chamaecyparis* - False Cypresses**

Some of the most familiar members of the cypress family, collectively termed 'false cypresses' to distinguish them from the closely related true cypresses *Cupressus*, which generally have larger cones (2cm or more as opposed to about 1cm in *Chamaecyparis*) and more filamentous foliage. False cypresses are not always easy to identify and most species have a variety of cultivars that can often look very different (notably those of *C. lawsoniana* and *C. pisifera*). To identify the various species and forms, check the details of the leaves and cones, the overall shape of the tree, the bark, and the smell of the crushed foliage. Nootka Cypress *Xanthocyparis nootkatensis*, *Thuja* species, Oriental Thuja *Platyclusus orientalis* and Incense Cedar *Calocedrus* have similar foliage but different cones. Some specimens of Leyland Cupress *X Cupressocyparis leylandii* can also create confusion. Six *Chamaecyparis* species are found worldwide, within North American and the Far East and four of these are found locally.

***Chamaecyparis lawsoniana* - Lawson Cypress**

Source: Western USA where wild stands are restricted to just a few coastal sites on the Oregon and California border. Introduced to Britain in 1854.

Distribution: Abundant and widespread, especially in local parks, churchyards, cemeteries, gardens and historic properties.

Further Notes: The most frequent large cypress-type conifer to be found in formal settings of our area, but also the most variable, coming in a remarkable variety of shapes, colours (various shades of greens, yellows and blues) and foliage textures (some involving persistent pointed juvenile leaves that are very different to the scale-like mature ones). This can make separation from other cypresses difficult. Several clues can help to identify a Lawson Cypress:

the leading shoot at the top of a tree tends to droop over (but not in all forms including the frequent 'Erecta Viridis' and 'Ellwoodii'); the relatively small cones (much smaller than a *Cupressus* and never flask-shaped like *Thuja* or *Calocedrus*) have small projections on each scale (never as pronounced as *Chamaecyparis nootkatenis*, but bigger than *C. obtusa* and *C. pisifera*); the shoots have rather feint white markings below and the tiny leaves have a translucent gland in the middle and hug the shoot fairly tightly (except in forms with juvenile foliage such as 'Ellwoodii'). The largest specimens are already some 20 metres high and will probably get much larger yet. Distinct forms found locally include the 'Type' (the original clone, usually in Victorian treescapes, typically very tall with moderately pendulous foliage), 'Erecta Viridis' (a dense, bright green tall tree resembling a *Calocedrus* with a blunt top - mostly in churchyards and cemeteries), 'Lutea' and 'Lane' (bright yellow varieties), 'Pembury Blue' (with bluish-grey foliage), 'Ellwoodii' (an upright form retaining dark green, spiky juvenile foliage), 'Fletcheri' (resembling the previous form but with yellower foliage), 'Nidiformis' (a bushy selection with tight sprays of foliage, resembling *C. obtusa*) and 'Wissellii' (a tall, narrow variety with dark green 'turrets' of compressed shoots, and a characteristic spiky shape). Seedlings have been found growing at Oversley Wood.

Key locations for seeing some: For a variety of forms: Jephson Gardens, Leamington Spa (including 'Type', 'Wissellii' and probable 'Lutea'); London Road Cemetery, Coventry (including 'Type', 'Ellwoodii' and a particularly large 'Pembury Blue'); Warwick Cemetery (including many fine 'Erecta Viridis'); Brueton Park, Solihull (has some fine 'Wissellii', 'Triomf van Boskoop', 'Lutea'); Riversley Park, Nuneaton (including 'Pembury Blue'); Ragley Hall Gardens; Coombe Abbey Arboretum (including very tall 'Type', plus 'Erecta Viridis', 'Lutea' and 'Ellwoodii'); Abbey Fields, Kenilworth (fine ones in churchyard including 'Type' and 'Lutea'); Caldecott Park, Rugby (various varieties); Wootton Wawen Churchyard (several varieties, including a large 'Erecta Viridis'); Brownsover Hall Hotel, Rugby (including many fine examples of the type form); Compton Verney (including a possible 'Westermannii' which is scarce); Alcester Cemetery (including a particularly fine 'Ellwoodii'); Arrow Church (including some particularly old 'Erecta Viridis' up to 2.23m GBH/2007). Nidiformis: Atherstone Cemetery; Warwick School, Warwick (a very large one close to main school entrance). Possible Filiformis: Hampton Manor, Hampton in Arden (a large one). As a timber tree: Oversley Wood.

Largest local specimens: Single-trunked: Brownsover Hall (2.59m GBH/2006, type form). The tallest examples tend to be those shaded out and include Victorian specimens at Bitham Hall, Brownsover Hall, Baddesley Clinton and Coombe Abbey Arboretum. Multistemmed: such trees can exceed 3m at their bases (e.g. 'Erecta Viridis' at Warwick Cemetery up to 3.32m @ 1m/2006). Layered: Bitham Hall, Avon Dassett (west end of lawn) – perhaps a dozen satellite trunks. Other slightly smaller layered specimens occur nearby and also at Wroxall Abbey, Berkswell Hall and Town Thorns near Brinklow.

***Chamaecyparis nootkatensis* – see *Xanthocyparis nootkatensis* (the new name)**



Above: two very different examples of the many local varieties of Lawson Cypress, a 'Lutea' at Knowle Church (top left) and an 'Erecta Viridis' at Warwick Cemetery (top right). The foliage at the bottom left is fairly typical, but varieties like 'Ellwoodii' (bottom right) retain spiky juvenile foliage that lacks cones.

***Chamaecyparis obtusa* - Hinoki Cypress**

Source: Mountains of Japan (and also a major forestry tree of Japan). Introduced to Britain in 1861.

Distribution: Occasional in local parks, cemeteries and gardens, sometimes as a hedge or as a dwarf conifer in rockeries and flower-beds (form 'Nana Gracilis').

Further Notes: In Japan, this species has grown into some of the oldest and largest tree specimens in the world, but it does not grow as fast as *C. lawsoniana*. The sprays of foliage tend to be rather neater and more compact than other *Chamaecyparis* (often like a coral fan) and the individual leaf scales are short and blunt compared with related species. The undersides of the shoots usually have a distinctive and attractive pattern of white 'Y' marks that are much brighter than related species. The crushed foliage gives a smell of new pencils. The trunk has reddish bark that shreds a bit like a redwood (very different to the greyer, deeply-fissured bark of *C. lawsoniana*) and larger trees tend to develop a very blunt-topped, open crown that is very different to any *C. lawsoniana*. The cones are relatively large for a *Chamaecyparis* and lack spines. Various cultivars exist locally, including the attractive Golden Hinoki Cypress 'Crippsii', also the dwarf 'Nana Gracilis'.

Key locations for seeing some: Normal form: Jephson Gardens, Leamington Spa (several); Riversley Park, Nuneaton; Hampton Manor, Hampton in Arden (two fine ones near the Craft Centre beside the giant *Tsuga*); War Memorial Park, Coventry (several fairly large specimens); Trinity Church, Attleborough Holy (medium-sized). Crippsii: Brueton Park, Solihull (several along boundary at Malvern Park end); Canley Crematorium, Coventry (several along boundary with Charter Avenue); Newbold Revel (young one in main car park). Nana Gracilis: Riversley Park, Nuneaton (a fine one by the Dove Tree); Warwick University Westwood Campus (beside the southernmost entry point off Kirby Corner Rd).

Largest local specimen: Hampton Manor, the largest one is 1.35m GBH/2006.

***Chamaecyparis pisifera* - Sawara Cypress**

Source: Japan. Introduced to Britain in 1861.

Distribution: Frequent in local churchyards and cemeteries (especially form 'Plumosa'), less frequent in parks and gardens.

Further Notes: The '*pisifera*' of the scientific name refers to the small cones which resemble wrinkled garden peas and can be produced in prodigious quantities. This feature is one of the best for distinguishing it from similar species, which tend to have slightly larger cones, often with distinct projections on the cone scales. The foliage is generally finer than that of Lawson Cypress with fine tips to the tiny scale-like leaves (though see varieties below). The overall shape is generally tall but irregular with a domed or multi-headed crown that lacks the pointed top and 'curved-over' leading shoots and dense foliage of Lawson Cypress. But there are a number of very-different looking cultivars that complicate matters. The 'Type' most resembles Lawson Cypress and is quite scarce locally. In 'Plumosa', the commonest form found locally, the leaves are longer (3mm), project from the shoot and are typically green, though they are more golden in 'Plumosa Aurea'. Var 'Squarrosa' has even longer (5mm), pointed leaves that are conspicuously

white beneath, producing a fluffy, bluish appearance rather like a giant version of *Juniperus squamata*. 'Filifera' tends to form a weeping bush with very drawn-out green shoots (yellow in 'Filifera Aurea'). The crushed foliage of all forms tends to give an acrid, resinous smell.



Hinoki Cypress (left) has neat sprays of foliage that resemble coral fans and usually have an attractive pattern of white crosses underneath. The foliage of *Sawara 'Plumosa'* (right) is much spikier, the cones resembling desiccated peas.

Key locations for seeing some: Type form: Warwick Cemetery (several large ones); Keresley Cemetery (a fine one); Brueton & Malvern Parks, Solihull (several medium-sized ones); Brinklow Cemetery (one); Ryton on Dunsmore Church (two); Polesworth Church (one); Keresley Church, Coventry (several); Aston Cantlow Church (one). Plumosa: Warwick Cemetery (several quite large ones, usually multi-stemmed and rather irregular in shape); London Road Cemetery, Coventry (several, largest in North Sector, 2.47m GBH/2006); Keresley House, Coventry (a fine specimen of 2.49m @ 80cm/2007 but girth affected by low forking); Leamington Cemetery; Brinklow Cemetery (up to 2.40m GBH/2006); Keresley House, Coventry (a fine one, see below); Clifton Road Cemetery, Rugby; many local churchyards including those at Knowle, Allesley (both churchyard and nearby cemetery), Ullenhall, Bilton, Coleshill, Church Lawford, Grendon, Newbold on Avon, Priors Marston, Temple Balsall, Henley in Arden and Tanworth in Arden. Plumosa Aurea: Atherstone Cemetery; Warwick Cemetery (up to 1.53m GBH/2006); London Road Cemetery, Coventry; churchyards at Mancetter, Tanworth in Arden, Stretton on Dunsmore and Combrook. Squarrosa: Warwick Cemetery (several fine ones); Wootton Court Spinney (a fine one close to drive); Coventry: London Road Cemetery and Keresley House (a very fine one in latter, see below); Bitham Hall, Avon Dassett (a fine

one with a main trunk of 1.85m GBH/2006 plus layering to produce satellite trunks); Keresley Church, Coventry (a fine one of 1.90m GBH/2007); Radway Church. Filifera: Brueton Park, Solihull (a yellow 'Filifera Aurea' near Parkridge Centre and a 'Filifera' near main car park); Jephson Gardens (N of Glass House); Bickenhill Church.

Largest local specimens: Type: Keresley Cemetery (1.91m GBH/2007) **but check Warwick Cemetery**. Plumosa: Allesley Cemetery (2.61m @ 0.9m waist/2007). Squarrosa: Keresley House, Coventry (1.96m GBH/2007).

***Chamaecyparis thyoides* – White Cypress**

Source: E coasts of USA where it inhabits poor, swampy ground. Introduced to Britain in 1736.

Distribution: Seemingly rare locally, though possibly overlooked in some of its dwarf garden forms.

Further Notes: The smallest *Chamaecyparis* in the wild and never fast growing. The best clue is the particularly small cones, typically only 7-8mm across (usually 10-15 in other *Chamaecyparis* species). The foliage is also more filamentous, with finer and sparser leaf-bearing shoots that create a fluffy appearance. This is generally a very uncommon species in British collections, though miniature, conical forms such as 'Ericoides' are starting to be sold more widely.

Key locations for seeing some: Temple Balsall Church (based on foliage sent to S. Falk); a medium-sized specimen at Compton Verney E of the lake was lost in 2008-09; Ericoides: Keresley House, Coventry (on owner's 2007 plant list, but not seen by the author).

***Chamaerops humilis* – Dwarf Fan Palm**

Source: W Mediterranean. Introduced to Britain in 1731.

Distribution: Rare locally and nationally.

Further Notes: Resembling Chusan Palm *Trachycarpus fortunei* but a smaller plant with smaller, stiffer and greyer leaves, with viciously spined stalks. The form from the Atlas Mountains 'Argentea' has pale blue leaves and resembles Mexican Blue Palm *Brahea armata*.

Key locations for seeing some: Barton House, Barton on the Heath (some young ones including 'Argentea'); Keresley House, Coventry (on owner's 2007 plant list, but not seen by the author).

***Cordyline australis* – Cabbage Palm**

Source: New Zealand. Introduced to Britain in 1823.

Distribution: Frequent in local gardens.

Further Notes: A giant yucca-like lily rather than a true palm, which tends to branch after it has first flowered (usually at about 8 years). It requires mild or sheltered areas.

Key locations for seeing some: Many in front gardens along the A45 Fletchamstead Way and adjacent Green Lane South, Coventry; also in several Leamington Spa gardens.

***Cryptomeria japonica* – Japanese Red Cedar**

Source: Japan and S China (the most important timber tree in the former country). Introduced to Britain in 1842.

Distribution: Occasional in local parks, cemeteries and larger gardens, especially those with Victorian conifers.

Further Notes: A rather variable species, in terms of both leaf shape and overall shape, but abundantly distinct from most other conifers found locally, particularly when the distinctive cones are present. The rather stringy shoots, with semi-addressed leaves are most likely to be confused with those of *Sequoiadendron*, especially a young one that has not developed its distinctive character. Most trees tend to become tall and narrow, but it will occasionally layer to produce a patch of satellite trunks like *Thuja plicata*. A number of cultivars exist. 'Elegans' has long slender needles and is very different-looking to the type form. 'Viminalis' shows the opposite state, with very short addressed leaflets creating thread-like shoots.



A fine Japanese Red Cedar at Stoneleigh Abbey (left); foliage and cones of this species (right).

Key locations for seeing some: Jephson Gardens, Leamington Spa (several); St. Nicholas Park, Warwick (several); Stoneleigh Abbey (a fine one in the terraced gardens); Compton Verney (several beside car park); Shuckburgh Church, beside Shuckburgh Hall (a fine tall one of 3.02m GBH/2007); Coventry: Allesley Park (a fine one by entrance to Hall) and Keresley House (a magnificent one with a broken central trunk of 2.34m GBH/2007 augmented by 17 satellite trunks); Solihull: Parkridge Centre, Brueton Park and Elmdon Park (one of 2.46 m @ 1.10m in woods near Church); Farnborough Park (a fine one near public entrance, 2.23m/2006); Brinklow Cemetery (a couple of medium-sized ones); Newnham Paddox Art Park (several, largest 2.29m/2007); Berkswell Hall (1.93m/2007); Studley Castle (an old, multistemmed one); Talton Hall near Newbold on Avon (a medium-sized one). Elegans: Shuckburgh Church, beside Shuckburgh Hall (a large multistemmed one, presumably of Victorian origin); Nuneaton (in

shrubby of riverside park N of Riversley Park); Atherstone Council House Gardens (a quite tall one); Keresley House, Coventry (a young one).

Viminalis: Possibly none left – an Oversley Wood specimen in the arboretum zone (1.14m GBH/2007) had been lost by 2010. The Keresley House plant list for 2007 also includes forms ‘Vilmoriana’, ‘Monstrosa’, Aurea’ and ‘Tilford Gold’.

Largest local specimens: Single-trunked: close to to Bitham Hall, Avon Dassett (in field SW of gardens, 3.50m GBH/2006). Layered: Keresley House, Coventry (see above).

***Cunninghamia lanceolata* – Chinese Fir**

Source: S and W China to N Vietnam. Introduced to Britain in 1804.

Distribution: Rare locally.

Further Notes: Not a true fir, but a rather unusual conifer with few close relatives. The leaves rather resemble giant yew leaves with sharp tips and broad bases that wrap around the shoot. They have two whitish stripes below. The young trunk is scaly with the remains of leaf scars, but eventually the bark becomes fissured and brown not unlike that of a *Chamaecyparis* or *Leylandii*. In time it can form a medium-sized tree with the outward appearance of an *Abies* fir, though it covers the ground beneath its canopy with a very dense litter of old shoots.

Key locations for seeing some: Warwick Cemetery (several young specimens, one at SW corner, two more near stream); Warwick Castle (a medium-sized one in Fox’s Study); Keresley House, Coventry (a mature Victorian specimen and at least one younger one nearby, which looks rather different to the old one); ‘The Yews’, Moreton Paddox (a young one); Barton House, Barton on the Heath (a young one).

Largest local specimen: Keresley House (1.54m GBH/2007).

***X Cupressocyparis leylandii* – Leylandii (Leyland Cypress)**

Source: A remarkable ‘cross-generic’ hybrid between two American trees: Monterey Cypress *Cupressus macrocarpa* and Nootka Cypress *Xanthocyparis nootkatensis*. It first arose accidentally in 1888 in a tree collection near Welshpool where the two parent trees occurred together, and has arisen several times since.

Distribution: A very familiar conifer of gardens, farmsteads and property screens, though less frequent than Lawson Cypress *Chamaecyparis lawsoniana* in parks and cemeteries. Often used for hedges, even in small gardens.

Further Notes: One of the most successful ‘cross-generic’ hybrids in the tree world. It is rare to obtain such a strong-growing tree when you cross two rather distantly related species, though it needs to be propagated from cuttings. Growth is very fast (31 metres in 50 year has been recorded) and it is the tallest cypress-type tree in many parts of our area. This has led to its infamous reputation, as less sensitive landowners and landscapers have planted rows of them in inappropriate places such as the boundaries of back gardens, where they shade neighbouring property and wreck views (a famous test case took place in Fillongley, Warwickshire). However, a large individual specimen can form an attractive conifer in the right setting, and some local ones have already attained 20 metres. Confusion is most likely with

Chamaecyparis and *Thuja* species. It never has the curled-over shoots of similar-looking Lawson Cypress forms (infact the leading shoot tends to be conspicuously upright at the top) and has particularly dense foliage. The cones, when produced, can resemble those of either parent being rather variable in size, and in some specimens they can have quite large spines like the Nootka Cypress parent. Several cultivars are found locally, one of the commonest being 'Haggerston Grey' which accounts for most the very large, dark-green specimens you see with very neat, flattened sprays of foliage. 'Castlewellan Gold' has paler, more irregular, less flattened and coarser sprays of foliage, which become yellowish at their tips. Bright yellow and variegated forms are also appearing, but the former can be very difficult to distinguish from yellow forms of Monterey Cypress, especially if no cones are present (Monterey Cypress cones are much larger), and variegated forms closely resemble the variegated form of Nootka Cypress (but have larger and less strongly thorned cones that are brown rather than purple).



Leylandii can produce a fine tree in a parkland setting e.g. these 'Haggerston Grey' specimens at Coombe Countryside Park (left). The variety 'Castlewellan Gold' (right) has yellow-green foliage and is popular for hedging.

Key locations for seeing some: Brueton Park, Solihull (a large 'Haggerston Grey' plus numerous 'Castlewellan Golds' in pinetum zone); Coombe Abbey Arboretum (some large 'Haggerston Grey'); Compton Verney (several scattered ones); Riversley Park, Nuneaton ('Haggerston Grey' and 'Castlewellan Gold'); Caldecott Park, Rugby (ditto); Barford Wood (a very tall screen of 'Haggerston Greys' alongside the Barford to Warwick back road just north of the M40 bridge); Cryfield Grange (some large 'Castlewellan Gold' N of lane); churchyards at Welford on Avon, Butlers Marston and Arrow (all Castlewellan Gold). **Hedges:** Stratford Rec (SE boundary); Nuneaton Cemetery (NW entrance); Caldecott Park, Rugby.

Largest local specimen: possibly those beside Barford Wood or at Coombe Abbey.

***Cupressus* – True Cypresses**

Usually very narrowly shaped (fastigate) conifers with tiny, scale-like leaves. They can be easily overlooked as false cypresses *Chamaecyparis* and also Thujas, but tend to have larger cones (often 2-4cm across) and sparser, more filamentous foliage with sprays of shoots arising at different angles. About twenty species occur worldwide. The various local *Cupressus* species are most easily distinguished by their overall size and shape, foliage colour, size and details of the cones, and smell of the crushed foliage. Parks, churchyards and private gardens appear to be the best places for finding these rather uncommon trees, and there is much potential for adding new ones or good specimens to this catalogue.

***Cupressus arizonica* ‘Glabra’ - Smooth Arizona Cypress**

Source: Central Arizona. Introduced to Britain in 1907.

Distribution: Occasional in local parks, gardens and cemeteries.

Further Notes: The pale-bluish foliage (more so in some specimens than others), combined with quite large, rounded cones (about 3cm across) rule out confusion with most other *Cupressus* species, which generally have either larger or smaller cones or greener foliage. But the best character for this species is the small spots of white resin that form on the scale-like leaves and the rather attractive bark of larger specimens where trunks have formed (with roundish patches of smooth red and brown bark). Our greyest specimens are probably of the variant ‘Pyramidalis’. Varieties ‘Aurea’ and ‘Sulphurea’ are yellow-foliaged forms that resemble yellow forms of *C. macrocarpa*.

Key locations for seeing some: Warwick Cemetery (a row of them on the boundary of northern section); Brueton Park, Solihull (a fine one in the pinetum not far from the Parkridge Centre, rather greener than most and possibly a rarer species); Warwick University (several particularly pale ones near the Arts Centre); Lower Quinton Church (a fine one beside the road, 1.43m @ base/2007). A fine one at Compton Verney (2.10m GBH/2006) was felled in 2008; Sulphurea: Keresley House, Coventry (a young one).

Largest local specimen: Lighthorne village (in small paddock at junction of Wellesbourne Road and The Bank, 2.13m GBH/2007).

Cupressus glabra* – the old name for *C. arizonica

***Cupressus macrocarpa* – Monterey Cypress**

Source: SW USA (Monterey, California) where as a wild tree it is restricted to just two cliff-top stands. Introduced to Britain in 1838 (now one of the commonest conifers in southern coastal districts).

Distribution: Large trees are rather scarce and concentrated in the Feldon area of mid Warwickshire, especially within large rural gardens. Those in the Moreton Morrell-Ashorne area seem to all have been planted at a similar time. The yellow forms are occasionally found in local gardens and cemeteries but are mostly young.

Further Notes: When mature, this is a very large cypress of variable shape. Some can be as large and broad as a Deodar, others are more narrowly

columnar, but the horizontal sprays of foliage that give a characteristic wispy outline is quite different to that of other *Cupressus*, *Chamaecyparis* or *Leylandii*. The cones are large (3cm) and rather resemble those of Italian Cypress *C. sempervirens*, though the projections on the cone scales tend to be blunter. The foliage is also similar to *C. sempervirens*, though the shoot tips tend to be broader and the foliage gives a strong lemony smell. There are a number of yellow-foliaged varieties e.g. 'Goldcrest', 'Donard Gold' and 'Golden Pillar' which are becoming increasingly planted.



Mature Monterey Cupresses like this one at Lower Tysoe (left) have distinctive spiky silhouettes that make them relatively easy to spot from a distance. The cones (left) are also relatively large for a Cupressus.

Key locations for seeing some: Moreton Paddox, about a dozen large specimens in gardens beside the Wellebourne Road, apparently planted in c1904 (largest in Tower Cottage, 3.98m GBH/2006); Fosse way, junction E of Moreton Paddox (a conspicuous specimen at the cross roads, 3.57m GBH/2006); Ashorne Manor (two fine ones E of the Hall, one 2.57m/2006, another larger but multistemmed); Ufton Fields Lane, Harbury End (a tall screen of many tall specimens, most with GBH exceeding 2m/2006); Great Wolford (two fine ones on roadside near Carters Leaze); Knowle: Knowle Park, (a single tall one beside Dell Farm Close 2.31m/2006) and another in Hampton Road close to junction with High Street; Lower Tysoe (three fairly large ones); Battle Lodge at top of Edge Hill above Arlescote (beside Camp Lane); Dunchurch (a fine double-trunked one in front garden of 'Gable End' overhanging E verge of A426 just S of motorway bridge, larger trunk 2.98m @ 80cm/2007, smaller one 1.93m GBH/2007); Umberslade Hall (see below); Shotterswell (a medium-sized one at Orchard House beside the church); Packwood Church(2.84m GBH/2007); Claverdon: Claverdon Leys, (a large one can be seen from gate) and Langley Road (several fine ones). Yellow

Varieties: Compton Verney (in private garden W of buildings); Reed Business College, Little Compton; London Road Cemetery, S section (a couple of young ones), Tysoe Manor, Upper Tysoe; some also spotted in gardens in Ullenhall, Preston Bagot and Moreton Paddox.

Largest local specimen: Umberslade Hall (a very large one in garden, SW of Hall, 5.90m GBH with trunk splitting into several stems at c2.5m).

***Cupressus sempervirens* – Italian Cypress**

Source: E Mediterranean to Iran – the classic cypress of southern Europe. Introduced to Britain in about 1500.

Distribution: Occasional in local churchyards and larger gardens.

Further Notes: The large cones (up to 4cm long) rule out confusion with most other *Cupressus* species and are very different to the smaller cones of various other cypress genera. It typically forms a very narrow, dark green tree with foliage directed upwards, but is rarely vigorous in our area. Monterey Cypress *C. macrocarpa* has similar cones and foliage, but quickly develops into a much larger, broader tree with the shoots directed outwards to create a characteristic wispy outline.

Key locations for seeing some: Holy Trinity Church, Stratford (close to main entrance); Ann Hathaway's Cottage, Shottery (three); Charlecote Church (one close to road); Packington Park (in garden W of the Hall, 1.48m GBH/2006); Meriden Church (one near road), Wroxall Abbey (S of chapel, see below); Sherbourne Church near Barford; Bedworth Almshouses Triangle (several young ones); Barton House, Barton on the Heath.

Largest local specimen: Wroxall Abbey (2.21m/2006 @ 30cm below low forks).

***Dicksonia antarctica* – Common Tree Fern**

Source: SE Australia & Tasmania. Introduced to Britain in mid 1800s.

Distribution: Rare locally.

Further Notes: A spectacular and ancient relative of our ferns but with a palm-like trunk and much larger leaves (fronds). It can grow 5-6 metres tall.

Key locations for seeing some: Keresley House, Coventry (several); Barton House, Barton on the Heath (a young one).

***Dicksonia fibrosa* – Wheki Ponga or Fibrous Tree Fern**

Source: New Zealand. Date of introduction to Britain unknown.

Distribution: Only a single local site known.

Further Notes: Closely resembling *D. antarctica* but slower-growing and with a more fibrous trunk.

Key locations for seeing some: Keresley House, Coventry.

***Ginkgo biloba* – Maidenhair Tree or Ginkgo**

Source: China, where endangered as a wild tree. Introduced to Britain in 1758.

Distribution: Quite widely planted in local parks, along urban roadsides and occasionally in private gardens; popular in new plantings. Occasionally found in plantation woodland.

Further Notes: A quite unique deciduous tree – a 'living fossil' that represents a group of primitive plants that abounded some 200 million years ago before

conifers and broadleaved trees had even evolved. In fact, it is so primitive that it retains free-swimming sperm cells like ferns as opposed to the pollen of all other trees. The more recent history of this tree is just as interesting, as the Chinese have long utilised its medicinal properties, and planted it in their classical gardens (encouraging the Japanese to do the same). It can now be purchased in tablet form from homeopathic sections of most local chemists. Ginkgo makes a tough street tree and is widely planted in towns and cities throughout the world. Large trees develop a neat conical shape and it gives a fine show of autumn yellow. Trees are either male or female, with males being more popular in planting schemes, as the plum-shaped, green female fruit smells like vomit when it ripens (though the nut it contains is edible). Only two confirmed females are currently known in our area (NE corner of Jephson Gardens and Shuckburgh Park).

Key locations for seeing some: Leamington Spa: Jephson Gardens (several, including a particularly fine male north of the fountain lake, 2.47m GBH/2006, and a fruit-bearing female at the NE corner of the park) and Ginkgo Walk, Whitnash (a medium-sized one); Stratford: several, including large ones in Riverside Park (2.34m GBH/2006) and Ely Street; Loxley Hall (a very fine one, 2.79m/2007); Compton Verney (including a large one W of House); Upton House (bottom of terraced garden); Riversley Park, Nuneaton (a young one), Warwick: Priory Park (young ones), Emscote Road and Coventry Road, (young ones); Keresley House, Coventry (a medium-sized one though apparently about 100 years old); Shuckburgh Park (a female of 1.92m GBH/2007 in front of Hall):

Largest local specimen: the largest Compton Verney specimen (3.01m GBH/2007).



The Maidenhair Tree is increasingly planted locally and gives a fine show of autumn yellow. Its deciduous foliage is quite unlike any other tree – in fact it is more closely related to ferns. The fine specimen on the left is the largest of those at Jephson Gardens.

***Hesperopeuce mertensiana* – Mountain Hemlock**

Source: High mountains of NW America from Alaska to California where it grows just below the snow line. Introduced to Britain in 1854.

Distribution: Only a single local site known and scarce nationally.

Further notes: A relative of the true hemlocks *Tsuga*, but with blunt, grey-green needles that lack any striping below and are arranged irregularly around the shoot. They can appear to arise as tight whorls on new extension shoots (rather like a cedar *Cedrus*). The bark is brown and rather rugged and the shape of the tree is generally conical. The cones are somewhat spruce-like, being longer and with many more scales than a *Tsuga*, but cones are not always produced in British trees.

Key locations for seeing some: Keresley House, Coventry (a very fine Victorian specimen of 1.91m GBH/2007 above a low side branch). It has apparently never produced cones.

***Juniperus* – Junipers**

Mostly small, bushy conifers with short, spiky leaves (juvenile leaves) and soft, rounded cones that turn from green to blue and fleshy to resemble berries. Some varieties of false cypresses and Japanese Red Cedar can have similar foliage but have very different cones. A few junipers also acquire scale-like mature leaves that produce foliage closely resembling that of *Cupressus* species, though if you find juvenile plus mature foliage together on one tree, or berries, this will confirm that you have a juniper. Junipers are not easy to identify from each other, with some species having a variety of different-looking cultivars. About 50 species are found across the northern Hemisphere, but only Common Juniper *J. communis* is native to Britain. There is great potential for finding new species and varieties in our area. The plethora of prostrate junipers used for shrubberies has been ignored as these are extremely difficult to identify, but are likely to include varieties of *J. chinensis*, *J. horizontalis*, *J. sabinus*, *J. squamata* and *J. virginiana*.

***Juniperus chinensis* – Chinese Juniper**

Source: China and Japan. Introduced to Britain in 1804.

Distribution: Local status unclear as it is very difficult to separate from *J. virginiana*, though definitely present as mature specimens in a number of Victorian planting schemes, including several local churchyards.

Further Notes: One of a number of junipers with *Cupressus*-like mature foliage combined with spiky juvenile foliage. This species closely resembles Pencil Cedar *J. virginiana* but tends to have thicker filaments of mature foliage, with spiky juvenile leaves arranged in both 2's and 3's (as opposed to only 2's) and mature trees often have a denser, neater shape. When berries are produced (not often in local trees) they are larger than *J. virginiana*. But a proportion of local juniper specimens cannot yet be assigned to either species.

Key locations for seeing some: Wroxall Abbey (several fine ones in area S of chapel); Hatton Park (three fine ones close to the Birmingham Road); Honington Hall (two large, tall ones in garden); Warwick University, Westwood Campus (several tall ones at entrance to campus); Brueton Park, Solihull (a bushy juniper near the Parkridge Centre appears to be this species); Warwick Cemetery (some of the old junipers appear to be *J. chinensis*, but at least one

is *J. virginiana*); Kenilworth; possibly the junipers at Newnham Paddox Art Park (several, largest 1.60 @ 30cm/2007); various local churchyards including St Nicholas, Kenilworth, Coughton Court (old, multistemmed); Butlers Marston (1.87m GBH/2007), Hillmorton, and Newbold Pacey (1.52m @ 90cm/2007). **Largest local specimen:** Hatton Park (the largest is 2.50m @ base/2007 but the trunk divides into four trunks very low). The largest single-trunked ones are at Honington Hall and Wroxall Abbey (both 2.02m GBH/2006).



Common Juniper (left) is characterised by wholly spiky 'juvenile' foliage. The berries are used to flavour gin. Pencil Cedar (right) belongs to another group of junipers that feature cypress-like, scale-leaved foliage, but often retain some spiky juvenile foliage alongside, as seen here, and the frequent presence of small blue berries also indicates a juniper.

***Juniperus communis* – Common Juniper**

Source: A native species with wild British populations based variously upon chalk grassland in the south, limestone areas such as the Cotswolds, and heather moorland and open forest in the north. Possibly once native to Warwickshire but not in recorded history. Most cultivars come from Europe, though the natural distribution of this tree also encompasses N Africa, N Asia and N America.

Distribution: Occasional in local gardens, parks and cemeteries.

Further Notes: The berries are used to flavour gin (squeeze either the berries or foliage in your fingers to get the familiar smell of gin & tonic). This species only ever produces spiky juvenile foliage, which is green above and white below. Wild specimens are bushy, but locally it is mostly encountered in its neat, upright fastigiata form known as Irish Juniper 'Stricta' (actually developed in Scandinavia!), which has attractive blue-green foliage. 'Oblonga Pendula' is another fastigiata form with extra long needles. Larger specimens can be confused with form 'Squarrosa' of Sawara Cypress *Chamaecyparis*

pisifera, but that species produces round cones, has different smelling foliage and grows much larger.

Key locations for seeing some: Type: Brueton Park, including the Parkridge Centre, Solihull; Brownsover Hall Hotel, Rugby (beside house); Canley Crematorium, Coventry. Stricta: Caldecott Park, Rugby; Jephson Gardens, Leamington Spa; Coughton Court (near walled garden); Reed Business College, Little Compton (some fine ones); Springfield Centre, Temple Balsall. Oblonga Pendula: Crewe Lane Arboretum, Kenilworth.

Largest local specimen: Possibly the one at Arbury Hall (needs measuring) or Wroxall Abbey (**measure**)



Skyrocket Juniper (left), an upright green cultivar contrasted with *Meyer's Blue Juniper*, a blue shrubby cultivar. Both are found sparingly in local parks and gardens.

***Juniperus scopulorum* – Skyrocket Juniper (a form of Rocky Mountain Juniper)**

Source: As a wild species, found in W USA. 'Skyrocket' is a popular cultivar.

Distribution: Young specimens are present in several local parks.

Further Notes: A narrowly columnar conifer resembling a *Cupressus* cypress, but foliage with a characteristic stringy texture resulting from the rather loosely-arranged shoots. The foliage resembles that of *J. virginiana* and it produces similar small berries, but these ripen in their second rather than first year.

Key locations for seeing some: Jephson Gardens, Leamington Spa (NE corner); St. Nicholas Park, Warwick (beside the brook); Brueton Park, Solihull (in the 'juniper zone' adjacent to the Parkridge Centre).

***Juniperus squamata* 'Meyeri' – Meyer's Juniper**

Source: An old Chinese selection of an Asian bush. Introduced to Britain in 1914.

Distribution: As a large shrub, occasional in local parks, cemeteries and larger gardens, though dwarf forms are commonly used in shrubberies and gardens.

Further Notes: A blue-green bush (colour similar to Blue Atlas Cedar), with branches that typically arch up and out to produce an appearance rather unlike any other Juniper. The steely-blue, pointed leaves are so densely arranged that they obscure the shoot that gives rise to them.

Key locations for seeing some: Parkridge Centre and Brueton Park, Solihull (several with other junipers nearby to compare them against); Leamington Cemetery (S. end); London Road Cemetery, Coventry (south sector); Jephson Gardens, Leamington Spa (a small one north of glass house); Ashorne Manor (main garden).

***Juniperus virginiana* – Pencil Cedar**

Source: E North America from Ontario to Florida. Introduced to Britain in 1664.

Distribution: Local status unclear as it is very difficult to separate from *J. chinensis*, though clearly present in several local cemeteries, churchyards and historic properties.

Further Notes: One of a small number of junipers with scale-like (*Cupressus*-like) 'mature' foliage, though the small 4-6mm blue berries can help confirm this species as a juniper, and there is often a mixture of pointed juvenile and scale-like mature leaves on one shoot. *J. chinensis* is very similar but has larger 6-8mm berries and thicker shoots which have a catty rather than soapy smell when crushed. *J. virginiana* can form quite a tall tree in time, though has also been cultivated to form prostrate, shrubby forms like 'Grey Owl' which are difficult to distinguish from a plethora of similar species, such as *J. sabina*.

Key locations for seeing some: Warwick Cemetery (a large one N of chapel, other similar junipers nearby may be *J. sinensis*); Umberslade Hall (a fine one of 1.97m @ 80cm); several churchyards including Butlers Marston (1.88m GBH @ 30cm/2007) and Newbold Pacey (1.56m @ 90cm/2007, foliage unusually pendulous). Possibly others at Riversley Park, Nuneaton (near the Bolle's Poplar) and Clifton Road Cemetery, Rugby (E edge).

Largest local specimen: Warwick Cemetery (2.0m GBH/2006).

***Larix* – Larches**

A group of deciduous conifers with whorls of slender needles like true cedars *Cedrus*, and quite unlike the yew-like leaves of other locally-found deciduous conifers such as Swamp Cypress *Taxodium distichum*. The cones have numerous scales and most resemble those of spruces *Picea*. The shape of the cone scales is one of the best ways of telling the different species and forms. Ten species are found worldwide and grow in an almost continuous belt around the northern hemisphere, but none of them are native to Britain.

***Larix decidua* - European Larch**

Source: Native to the mountains of Europe from the Alps to the Tatra Mountains. Introduced to Britain by 1629 as a source of strong, fast-growing timber.

Distribution: Widespread locally, particularly within shelterbelts and woods, and occasionally in parks and gardens, but only separable from Japanese

Larch *L. kaempferi* and Hybrid Larch *L. x eurolepis* by examining the cones and foliage.

Further Notes: Most easily identified from other local larches by the cone scales, which are flat and do not curve outwards (in contrast to Japanese Larch *L. kaempferi* and Hybrid Larch *L. x eurolepis*). The needles are also relatively more slender and the twigs yellower, producing a 'blonde' tone to a tree in winter. The early bright greens and autumn gold of the foliage have led to its inclusion in parks and gardens, though older trees can become very untidy-looking. Some specimens are strongly pendulous (e.g. a tree in Brueton Park, Solihull)

Key locations for seeing some: Formal settings: Stratford Golf Course (many fine ones); Compton Verney (several, the largest 3.03m GBH/2006); Baddesley Clinton (lakeside, largest 2.33m/2006); Crewe Lane, Kenilworth (within the woodland strip on the S side); Packington Park (various places, largest measured 2.99m/2006); Newnham Paddox Art Park (largest measured 2.61m/2007); Compton Wynyates (a fine one in the coombe NE of the House, 3.35m GBH/2007); Myton Road (east end), Leamington Spa; Keresley House, Coventry (a fine one 3.52m GBH/2007); Brueton Park including the Parkridge Centre, Solihull (including a very pendulous one in the former); Shuckburgh Park (several fine ones, the largest measured 2.72m GBH/2007); numerous local churchyards, including Oxhill, Shotterswell, Napton and Wolvey. Woodlands: Monks Park Wood and Bentley Park Wood, near Atherstone; Hartshill Hayes (numerous, largest one 1.95m GBH/2007); Clowes Wood, near Earlswood (some fine ones); Crackley Wood, Kenilworth (including a fine one of 2.92m GBH/2008 near the main Crackley Lane entrance); Thickthorn



Warwickshire punches above its weight with regard to larches, boasting the English (and 2nd national) champion for European Larch near Stoneleigh (left) and the national champion Japanese Larch at Barton House, Barton on the Heath (right).

Wood, Kenilworth (a large block); Arley Wood, Old Arley (several blocks); Chantry/Church Wood, near Meriden (a block at W end); various woods in Coventry, including Tile Hill Wood, Park Wood, Tocil Wood and Wainbody Wood North.

Largest local specimen: Deer Keeper's Cottage, Stoneleigh Deer Park (5.64m GBH/2007) - the largest English specimen and probably of early 18th century origin (possibly one of the large larches noted in Stoneleigh by Elwes & Henry, 1900-1913).

***Larix x eurolepis* – Hybrid Larch**

Source: A hybrid between European Larch *L. decidua* and Japanese Larch *L. kaempferi*, that originated in Scotland at around 1900.

Distribution: Status unclear though some confirmed specimens exist locally.

Further Notes: Faster growing than either of its parents. It generally has broader, greyer leaves than *L. decidua*, larger flowers and larger, taller cones. But it is variable and some specimens cannot always be confidently separated from the parents, especially *L. kaempferi*.

Key locations for seeing some: Rugby (in grounds of part of Rugby School at N end of Barby Road, E side); Stratford Golf Course (young labelled specimens); Springfield House, Temple Balsall; also further Warwickshire sites cited in Flora 2000 - **any specific sites?**

Largest local specimen: Springfield House, beside main lawn (2.74m GBH/2006, image checked by Owen Johnson, severely damaged by surgery in 2007 according to John Clarke).

***Larix kaempferi* - Japanese Larch**

Source: Japan (Mount Fuji). Introduced to Britain in 1861.

Distribution: Possibly quite frequent in our area, especially in plantations, but many larches have yet to be checked. Also used in parks and gardens for its fine autumn colours.

Further Notes: The cones provide the best distinguishing feature. Each scale is bent strongly outwards and sometimes downwards, so that a cone viewed from above almost resembles a brown flower. The crown tends to be denser than *L. decidua* and without hanging shoots. The needles are relatively broader with 2 whitish bands below (unbanded in *L. decidua*) and the twigs are darker and usually with a waxy bloom.

Key locations for seeing some: Parks & gardens: Jephson Gardens, Leamington Spa (near the east gate); Warwick Cemetery (one in SW corner); Parkridge Centre, Solihull; St Nicholas Park, Warwick (near Emscote Road entrance); Stratford Riverside Park (a large one by river south of Brass Rubbing Centre 3.17m GBH/2006); Chilvers Coton Church, Nuneaton (several); Warwick Castle (Fox's Study, up to 2.05m GBH/2007); some fine specimens have also been found in a private collection off Dalehouse Lane, Kenilworth but are not accessible to the public. Plantations: Hartshill Hayes (WBRC, 1970s record); Oversley Wood (WBRC record, 1969 report); Arrow Old Park, 1997.

Largest local specimen: Barton House, Barton on the Heath - the national champion (a magnificent specimen on lawn behind house 3.62m GBH/2007, viewable from the adjacent churchyard).

***Metasequoia glyptostroboides* - Dawn Redwood**

Source: SW China. Introduced to Britain in 1948.

Distribution: Larger trees are occasional in local parks, gardens and a university campus, though it is increasingly included in new planting schemes.

Further Notes: A 'living fossil' that was long-known as a widespread fossil tree, but subsequently discovered alive in China in 1941. It is a deciduous conifer that resembles the Swamp Cypress *Taxodium distichum* (also found locally) but with larger leaflets strictly arranged in opposite pairs upon the longer shoots (arranged alternatively in *Taxodium*). It also comes into leaf much earlier in spring (late March) and the overall shape is more triangular, with a pointed top (broader and blunt-topped in *Taxodium*). 'Gold Rush' is a variety with soft yellowish foliage developed in 2000 that is becoming popular in planting schemes.



A Dawn Redwood at Brueton Park, Solihull (left) showing the neat triangular shape. The deciduous foliage (right) is strikingly similar to that of Swamp Cypress, but the leaflets are strictly opposite.

Key locations for seeing some: Jephson Gardens (fairly large one west of the fountain lake, a young one south of the lake, with some *Taxodium* conveniently located east of the lake); Brueton Park, Solihull (several with some *Taxodium* to compare against nearby); Coombe Countryside Park (several fine ones north of lake near Smite Bridge, largest 2.25m GBH/2006); Wootton Court Spinney, Leek Wootton (a couple); Warwick University (a number in various parts of the campus); Upton House bog garden (one with a *Taxodium* nearby); St Nicholas Park, Warwick (a couple near the boat house); Talton Hall near Newbold on Avon (2.20m @ 1.4m/2007); village front gardens at Priors Hardwick and Cherington; Shuckburgh Park 'Wild Garden' area, 2.25m GBH/2007); Stanley House, Rugby (a fine one beside North

Crescent, 1.96m GBH/2009). Gold Rush: Talton Hall near Newbold on Avon; Barton House, Barton on the Heath.

Largest local specimen: possibly a specimen in a garden in Hurst Green Road, Bentley Heath near Solihull, which was probably planted in the early 1950s and has a GBH of 2.40m/2006.

***Picea* – Spruces**

Large evergreen conifers with the relatively short needles characteristically joined to the shoot by small wooden pegs. Silver firs *Abies* and douglas firs *Pseudotsuga* can look rather similar. Silver firs have their needles joined to the shoot (which is often smooth) by green suckers and have erect cones (drooping in spruces). Douglas firs have neither pegs nor suckers, and their drooping cones have bracts protruding from between the cone scales. Some spruces can be quite difficult to identify. Check the precise length, shape and colour of the needles, details of the cones (which often occur on the ground beneath a tree), the shoot and the bark, also the overall shape of the tree. Some forty species extend around the northern hemisphere but none are native to Britain. The key in Mitchell (1978) is best consulted for critical determination.

***Picea abies* – Norway Spruce**

Source: Europe and W Russia, especially on mountain slopes (often highly visible around European ski courses). Introduced to Britain by 1500.

Distribution: Widespread in local gardens, parks, shelterbelts, woods and occasionally along roadsides. It is also the most popular British Christmas tree, and can be found as young plantations in the countryside, which are harvested after a few years growth. Many garden specimens are likely to be planted Christmas trees that have rooted successfully and there is scarcely a suburb in our area where you cannot see one somewhere on the horizon.

Further Notes: Our most abundant spruce and usually fairly easy to identify by its distinctive silhouette which is typically comprised of numerous elegant upwardly-curved branches each bearing a curtain of hanging shoots. But the shape can vary somewhat and form 'Inversa' is strongly weeping. The cones are also distinctive being long and narrow, with scales that are truncate at their tips and much more rigid than species like Sitka Spruce *P. sitchensis*.

Key locations for seeing some: Woodlands: Clowes Wood, near Earlswood (some very fine ones, largest 2.24m GBH/2007); Thickthorn Wood, Kenilworth (some fine ones, largest 2.33m GBH/2008); Bannams Wood, near Moreton Bagot; Oversley Wood, near Alcester (in arboretum area). Formal settings: Brueton Park, Solihull (several, including an 'Inversa'); Compton Verney (several, largest 2.49m GBH/2006); Southam (several in gardens at the south end of Banbury Road); London Road Cemetery, Coventry (one in the middle of the south sector); Priory Park, Warwick (beside the children's nursery at the SE corner); Hampton Manor, Hampton in Arden (a very fine one on the lawn west of the Manor); Wootton Court Spinney, Leek Wootton (largest 2.23m GBH/2006); Knowle Park, Knowle (several with some *P. sitchensis* to compare against); Bitham Hall, Avon Dassett (largest one found beside drive is 2.64m GBH/2006 but may be forked); Honington Hall garden (a very fine one of 2.72m GBH/2007 and 29m high, grounds private) .

Largest local specimen: Brandon Hall (in gardens in front of hotel, 3.48m GBH/2009).



Foliage of Norway Spruce (left) contrasted with of Blue Colorado Spruce (right). Notice the wooden pegs at the base of the needles, a characteristic of all spruces.

***Picea asperata* – Dragon Spruce (requires confirmation)**

Source: W. China. Introduced to Britain in 1910.

Distribution: Unconfirmed.

Further Notes: Of other locally-found spruces, most resembling *P. pungens* or *P. sitchensis*, with stout orange shoots giving rise to short, very stiff and sharp-tipped, square-sectioned needles. The cones resemble species such as *P. orientalis*, with semi-circular cones scales.

Key locations for seeing some: Warwick Castle (a young spruce in Fox's Study has foliage very similar to named specimens seen in national collections, but has not yet produced cones).

***Picea brewerana* – Brewer Spruce**

Source: N America, where it is native to just a few mountain tops on the Oregon-California border. Introduced to Britain in 1897.

Distribution: Occasional in local parks, most still young.

Further Notes: A striking conifer with very long pendulous, dark-green shoots bearing long and loosely-arranged, slightly flattened 3mm long needles that have a narrow white band below. In mature trees, the shoots can be over 2 metres long producing a most unusual 'curtained' appearance, though local specimens are still young. Beware the weeping form ('Inversa') of Norway Spruce *P. abies*, which has a similar shape but much denser, shorter needles; also *P. smithiana* which has more cylindrical, entirely green needles up to 4cm long and, a less dense and more spreading canopy and larger, more pointed cones.

Key locations for seeing some: Brueton Park and Parkridge Centre, Solihull (several specimens); Jephson Gardens, Leamington Spa (a young specimen close to the main entrance, with a young Blue Colorado Spruce nearby to show the two extremes of spruce appearance); Caldecott Park, Rugby (a young one at the north end); Crewe Lane Arboretum, Kenilworth (a couple); Ragley Hall Gardens.

Largest local specimen: Crewe Lane Arboretum (not especially large considered on national basis).

***Picea glauca* ‘Albertina Conica’ – White Spruce (dwarf form)**

Source: North America. Date of introduction to Britain unknown.

Distribution: The dwarf version of this conifer appears to be becoming increasingly popular in local gardens and other shrubberies and is widely available in garden centres.

Further Notes: The dwarf version is a very neat pyramidal tree usually just a few metres high and bearing little resemblance to the wild form (a fairly nondescript spruce).

Key locations for seeing some: Barton House, Barton on the Heath and probably the dwarf spruce at places like the Bedworth Almshouses Triangle, and a number of private gardens, though similar forms of other spruces such as *P. abies* are also available.



Serbian Spruce is one of the most elegantly-shaped conifers and is becoming popular in parks and gardens. The needles (right) have attractively white-striped undersides like a silver fir.

***Picea omorika* – Serbian Spruce**

Source: As a wild tree confined just to the Upper Drina Valley in Yugoslavia. Introduced to Britain in 1899.

Distribution: Occasional in local parks, cemeteries and gardens, but increasingly popular in gardens.

Further Notes: The fir-like, flattened needles (green above, two white stripes below), combined with a very narrow overall shape to the tree with delicately outcurved sidebranches (designed to minimise damage from heavy snow in its native area) makes for a fairly distinctive spruce, though beware the occasional Norway Spruce with a similar shape (this has cylindrical, scarcely striped needles). The only other flat-needled spruces inhabit the Pacific region and E Himalayas, and *P. omorika* is regarded as a relict of a rather ancient group of spruces that were once widespread in the northern hemisphere. 'Pendula' is a rather strange-looking form that develops a drooping leading shoot. Increasingly sold as a garden and Christmas tree.

Key locations for seeing some: Coombe Abbey Arboretum (several, some about 15metres high); Brueton Park, Solihull (several in the pinetum zone near the Parkridge Centre); Miners' Welfare Park, Bedworth; Caldecott Park, Rugby (a young specimen amongst mixed conifers towards the north end); Canley Crematorium, Coventry (several); Ann Hathaway's Cottage, Shuttery (several young ones in the Shuttery Brook Walk); Knowle Park, Knowle (NW corner); Crewe Lane Arboretum, Kenilworth (several); Honington Hall (near entrance drive); Barton House, Barton on the Heath (one very fine typical specimen plus several young 'Pendula'. Suburban and village garden specimens that can be seen from roads include Upper Binton (near the village hall), Brownhill Green (Wall Hill Rd), Nether Whitacre (near the church); Austrey village (near the Church) and Cubbington (E end of village beside B4453)

Largest local specimen: Barton House (1.05m GBH/2007 and quite tall).



Oriental spruce foliage has very short needles and cones with rounded scales.

***Picea orientalis* - Oriental Spruce**

Source: The Caucasus Mountains and E Turkey. Introduced to Britain in 1839.

Distribution: Just a few local sites, typically parks and larger gardens, though one young specimen has been found in a Coventry front garden (Erithway Road, Finham – assuming it is not a very aberrant Norway Spruce *P. abies*).

Further Notes: The very short needles (only about 1cm) allow easy distinction from all other spruces. It matures into a much denser tree than *P. abies* without the same display of elegantly upcurved branches. The cones are very slender with neatly rounded cone scales.

Key locations for seeing some: Coombe Abbey (a pair of large ones in the fenced paddock NE of the arboretum); Hampton Manor Wood, Hampton in Arden (in woods at NW of grounds, 1.58m GBH/2006); Brueton Park (several young ones in the pinetum zone plus a larger one within the Parkridge Centre; Wootton Court Spinney (weak one along east boundary); Warwick Cemetery (a young one).

Largest local specimen: the largest Coombe Abbey specimen (2.44m GBH/2006).

***Picea pungens* 'Glauca' - Blue Colorado Spruce (Blue Spruce)**

Source: The eastern side of the Rocky Mountains, where it is typically a green rather than blue tree. Most British specimens are of the striking blue form 'Glauca', which is very rare in the wild. Introduced to Britain in 1862.

Distribution: Our second most frequent spruce after Norway Spruce *P. abies* and popular in local parks and gardens.

Further Notes: Planted for its attractive blue-grey foliage, though it does not form such an elegantly shaped tree as *P. abies*. The grooved shoots are particularly stout and vary from buff to orange. Young needles are strikingly pale-blue, upcurved, rigid and sharp-tipped. Older foliage can be green by contrast. A couple of specimens in Brueton Park have all the leaves deep green. Cork Fir *Abies lasiocarpa*, Noble Fir *A. procera* and Blue Atlas Cedar *Cedrus atlantica* are also bluish-coloured conifers, but with very different foliage and upright rather than drooping cones.

Key locations for seeing some: Brueton Park, Solihull (several young specimens); Holy Trinity Church, Stratford (a fine one next to Church); Riversley Park, Nuneaton; Dunchurch (a tall one on the Rugby Road beside main entrance to the Dunchurch Park Hotel 1.50m GBH/2007); Middle Tysoe (a tall one in St Mary's Churchyard on Oxhill Rd, 1.50m GBH/2006); Cubbington (large one in front garden along A445 near junction with Telford Ave); Crewe Lane Arboretum, Kenilworth (several forms); Jephson Gardens (a young one close to the main entrance); Compton Wynyates (1.67m GBH/2007, and tall); Newnham Paddox (see below); Shrewley (a component of a Christmas tree plantation close to the Grand union Canal near 'High Chimneys').

Largest local specimen: Newnham Paddox, garden boundary near the large *Calocedrus* (1.72m GBH/2007), one of the largest in Britain.



Spruce cones are a useful aid to identification – the familiar cone of Norway Spruce (left) is elongate with truncated tips to each scale, whilst that of Tiger-tail Spruce (right) is much shorter with rounded scales.

***Picea sitchensis* - Sitka Spruce**

Source: Coastal forests of western N America from Alaska to mid-California. Introduced to Britain in 1831.

Distribution: Scattered locations locally, mostly within plantations but occasionally in municipal parks and shelterbelts. It grows better in the north and west of Britain where it is an important forestry tree.

Further Notes: The largest of all spruces in the wild (up to 80 metres high), though not growing strongly in our area. The foliage is characterised by pale buff coloured shoots that give rise to stiff, straight and sharply pointed narrow needles that feel like hedgehog spines to handle. These needles are slightly flattened, green above (but with two narrow white stripes) and white below with a narrow median dark stripe. This gives the foliage characteristic silvery flashes when viewed from a distance and a slightly bluish colour reminiscent of *P. pungens* though the latter has more cylindrical, stouter up-curved needles lacking stripes. Sitka spruce is very fast growing in wetter cooler areas where a growth rate of 1 metre per year has been recorded.

Key locations for seeing some: Warwick: St Nicholas Park (the large spruce near the river) and Warwick Castle (a number in Fox's Study); Knowle Park (several specimens within the boundary planting); Castle Farm Recreation Centre, Kenilworth (several alongside footpath leading to Abbey Fields); Upton House (one near the greenhouses); Parkridge Centre, Brueton Park, Solihull (a couple of smallish ones amongst the Norway Spruces); Warwick University (Westwood Campus pinetum); Hampton in Arden (Manor Woods, says S. Apted 1985, checked by John White); Honington Hall (a line of youngish ones beside main entrance drive); Packington Park (several in Garden Spinney); Bedworth Cemetery (1.75m GBH/2007).

Largest local specimen: St Nicholas Park (2.05m GBH/2006 but not especially tall); a taller specimen of 1.80m/2006 occurs in Garden Spinney, Packington Park.

***Picea smithiana* – Morinda Spruce**

Source: W. Himalayas. Introduced to Britain in 1818.

Distribution: Rare locally.

Further Notes: One of two spruces with very pendulous foliage comprising long, rather sparse needles. *P. breweriana* is the other, but the two can be distinguished by details of the needles, cones and the overall appearance of the tree (canopy much more open and spreading in *P. smithiana*).

Key locations for seeing some: Bitham Hall (a mature specimen of 2.26m GBH/2006 half way along entrance drive, west verge); Crewe Lane Arboretum, Kenilworth (fairly young). One used to be present in Warwick Castle Park (Fox's Study, 1975, but was not found in 2006).

***Picea torano* - Tiger-tail Spruce**

Source: Japan. Introduced to Britain in 1861.

Distribution: Rare locally and nationally, relicts from Victorian planting.

Further Notes: A very distinctive spruce due to the remarkably thick, very rigid, sharply-pointed and entirely green needles which are painful to handle.

Key locations for seeing some: Hampton Manor, Hampton in Arden (a fine, specimen 1.33m GBH/2006); Coombe Abbey (a dying one also of 1.33m/2006 in the fenced paddock NE of the arboretum).

***Pinus* - Pines**

Typically large evergreen conifers (though dwarf cultivars are becoming popular) with long needles. These needles are usually batched in two's, three's or five's from a single basal sheath, depending on the species. The wooden cones are comprised of many knobbly scales (rarely flattened like the cone scales of spruces, firs and cedars). Some species are very difficult to identify. Check the number of needles in a bunch, the length, shape and colour of the needles, the details of the cone, shoot and bark, and the overall shape of the tree. Worldwide, there are about 100 species scattered widely across the northern hemisphere, but only Scots Pine *P. sylvestris* is native to Britain (Scotland). The key in Mitchell (1978) and descriptions in Owen & More (2004) can be consulted for critical determination, but the following categorisation will help narrow down the local species:

2-needled pines: *P. contorta*, *P. densiflora*, *P. eldarica*, *P. heldreichii*, *P. mugo*, *P. nigra*, *P. pinaster*, *P. pinea*, *P. sylvestris*

3-needled pines: *P. coulteri*, *P. jeffreyi*, *P. patula*, *P. ponderosa*, *P. radiata*,

5-needled pines: *P. cembra*, *P. parviflora*, *P. peuce*, *P. strobus*, *P. wallichiana*

***Pinus aristata* – Bristlecone Pine**

Keresley House, Coventry (on owner's 2007 plant list, but not seen by the author).



Examples of a two-needled pine (Austrian Pine, left), a three-needled pine (Jeffrey Pine, middle) and a five-needled pine (Weymouth Pine, right).

***Pinus cembra* – Arolla Pine**

Source: The Alps and Carpathian Mountains of central Europe. Introduced to Britain in 1746.

Distribution: In a few local parks and gardens. Quite scarce nationally.

Further Notes: One of several locally planted pines with needles arranged in batches of five's. From other five-needled species, it can be distinguished by the rather dense, stiff, shortish (8cm) needles, which have whitish undersides (giving trees a rather silvery appearance) and the young shoots, which are smooth and olive-brown with a dense covering of yellow hairs. Young trees have a particularly dense, cylindrical appearance. Cones, once produced, are small and short with rather flattened, fleshy bluish scales (rather like an artichoke) quite unlike the elongate cones of other five-needled species like *P. wallichiana* or *P. strobus*. They produce edible seeds. Japanese White Pine *P. parviflora* is most similar, but has shorter needles that are even whiter on the underside, different cones and a more bushy growth habit. Arolla Pine has been planted to counter avalanches in parts of the Alps.

Key locations for seeing some: Jephson Gardens, Leamington Spa (still a specimen near the Glass House though a finer one died in 2008); Warwick Cemetery (two medium-sized specimens); Knowle Parish Church (medium-sized specimen), Rugby: Caldecott Park (medium-sized specimen near the main entrance) and Clifton Road Cemetery (medium-sized specimen in middle); Brueton Park, Solihull (two medium-sized specimens near the car park); Moreton Morell Real Tennis Club (1.61m GBH/2006 for a single trunk); Bedworth Almshouses Quadrangle (a young one); Shipston on Stour Cemetery (1.20m GBH/2007); Talton House near Newbold on Stour (a young one).

Largest local specimen: Knowle Parish Church (2.07m diameter at 30cm/2006 before trunk divides).

***Pinus contorta* - Lodgepole Pine/Shore Pine**

Source: Rocky Mountains from W Alaska to Colorado. Introduced to Britain in 1854.

Distribution: Occasional in local parks, gardens, churchyards, cemeteries and coniferised woods, though increasingly being used in landscaping.

Further Notes: One of several pines with needles arranged in batches of two's. The needles are rather short (6-10cm), dark green, broad, flattened, and slightly twisted. They give the canopy a characteristic 'tufted' texture from a distance which can be picked out from other pines with practice. The small cones have a small spine on each scale, which can be very noticeable on new cones but worn off older ones. They are not dropped as readily as *P. sylvestris* or *P. nigra*. The buds are long, blunt and usually covered in sticky resin. The brownish bark tends to break up into small, squarish plates a bit reminiscent of some cedars or Holm Oak and very different to other locally found pines. This tends to be the first clue of their presence in a conifer plantation. Scots Pine *P. sylvestris* has needles of a similar length but bluer and finer and very different buds and bark. Corsican Pine *P. nigra* has much longer needles and striated or flaky bark. The upright variety of Mountain Pine *P. mugo* is also similar but has basal cone scales drawn downwards, less dense foliage and different bark. Lodgepole Pine is the best forestry pine for poor soils in cooler and wetter parts of western Britain where it can outgrow *P. sylvestris*.

Key locations for seeing some: Woodland: Arley Wood, Old Arley (a few, mostly in NW sector, largest measured 1.30m GBH/2008); St Lawrence's Wood, near Hartshill Hayes (many fine ones over 1.5m/2010); National Agricultural Centre, Stoneleigh (some in the shelter belt beside Stoneleigh Road); Brandon Wood, Binley Woods (one close to main ride at west end of wood); Oversley Wood, near Alcester; Hay Wood, near Wroxall (along main ride); CAD Kineton (The Oaks). Formal settings: Castle Farm Recreation Centre, Kenilworth (several in car park and one alongside footpath leading to Abbey Fields beside a Scots Pine); Brueton Park and Parkridge Centre, Solihull (several, the finest near the main Brueton Park car park beside a Scots Pine is 1.65m GBH/2006); Knowle Park, Knowle (several specimens, largest 1.87m GBH/2006 but forking low); Coleshill Cemetery (several, the largest 1.27m/2006); Warwick University (young ones in various places); Hampton in Arden Crescent (teste S. Apted, 1980s).

Largest local specimen: St Lawrence's Wood near Hartshill Hayes Country Park (largest measured was 1.89m GBH/2010).

***Pinus coulteri* – Coulter (Big-cone) Pine**

Source: SW North America from California to NW Mexico. Introduced to Britain in 1832.

Distribution: Rare locally.

Further Notes: One of several locally found pines with needles arranged in batches of three's. This species eventually produces massive cones (up to 30cm long and weighing as much as 5lbs) with cone scales bearing forward-pointing hooks. The cones are thus quite different in appearance to other locally planted three-needled pines such as *P. radiata* and *P. ponderosa*. The leaves are also much longer – up to 30cm and tend to be slightly crinkled.

Key locations for seeing some: Rock Mill Arboretum, Milverton (recent planting by D. Howells). Possibly also Stratford Golf Course (several newly planted ones) and Warwick Castle (a young one in Fox's Study), though neither have yet produced cones.

***Pinus densiflora* – Japanese Red Pine**

Source: Japan, Korea & N China. Introduced to Britain in 1861.

Distribution: Only a single local site known.

Further Notes: A two-needled pine resembling *P. sylvestris* but with longer and sparser needles.

Key locations for seeing some: Barton House, Barton on the Heath (a small specimen with a low broad crown).

***Pinus (brutia) eldarica* – Afghan (Eldar) Pine**

Source: Pakistan, Afghanistan and adjacent parts of the former Soviet Union.

Distribution: Very rare locally and nationally (possibly only otherwise represented in Britain by specimens at Kew and Hillier Gardens).

Further Notes: A two-needled pine most resembling *P. nigra* in terms of other locally-found species but with very rugged, reddish bark. The needles are 8-14 cm long and the cones, which are fairly similar to those of *P. nigra* and *P. sylvestris*, are 5-9 cm long. This is a pine of dry, hot areas and is not vigorous here, though it is a popular shelterbelt and Christmas tree in hotter parts of the USA such as Texas. Now generally regarded as a race of *P. brutia*.

Key locations for seeing some: Honington Hall – formerly two medium-sized, slow-growing specimens in the gardens, grown from seeds obtained from Afghanistan many decades ago (1.11m and 1.01m GBH/2007). One died in about 2009.

***Pinus heldreichii* – Bosnian Pine**

Source: The Balkans and Calabria. Introduced to Britain in 1890.

Distribution: Rare locally.

Further Notes: A two-needled pine with deep blue-purple immature cones that otherwise resemble those of *P. nigra* in shape and size (but immature cones are green in *P. nigra*). The foliage also resembles that of *P. nigra*, but the needles are much more densely bunched and forward-angled, and rarely exceed 12cm.

Key locations for seeing some: Brueton Park pinetum (a relatively young conical specimen); Keresley House, Coventry (on owner's 2007 plant list, but not seen by the author).

***Pinus jeffreyi* – Jeffrey Pine**

Source: Western N America from Oregon to N Mexico. Introduced to Britain in 1853.

Distribution: Very occasional in local parks, cemeteries and historic properties but used in several recent planting schemes.

Further Notes: One of several locally found pines with needles arranged in batches of three's. The leaves are up to about 20cm long, much longer and stiffer than those of Monterey Pine *P. radiata* but resembling those of Ponderosa Pine *P. ponderosa* and Coulter Pine *P. coulteri*. It eventually produces large and distinctive cones up to 25cm long, which allows separation from those other species, and the blue-grey-bloomed young shoots are another useful clue. When the cones drop from a tree they often leave their bases still attached to the branch.

Key locations for seeing some: Brueton Park, Solihull (a fine one near Parkridge Centre beside main path, 2.14m GBH/2006); Warwick University,

Westwood Campus (a fine one in corner of Pinetum, 1.59m GBH/2007); Priory Park (a young specimen along the south edge which started producing cones in 2006); Warwick Cemetery (several young specimens); Ashorne Manor (a fine one in the 'Boffey area' east of the Hall); Haseley Manor (one of 2.37m/2007 at SW corner of the Victorian tree block close to entrance drive); Stratford Golf Course (young specimens may be this species or possibly *P. coulteri*).

Largest local specimen: Ashorne Manor (2.80m GBH/2006).

***Pinus mugo* – Mountain Pine**

Source: High mountains from Spain to the Balkans. Introduced to Britain in 1779.

Distribution: Increasingly used in local shrubberies in new development, car parks, formal parks and cemeteries.

Further Notes: The form typically found locally is a rather prostrate, shrubby cultivar (subspecies '*mugo*') ideal for shrubberies, though the upright form (subspecies '*uncinata*') can grow to 20 metres. Mountain Pine has short (typically 4-6cm), flattened needles in two's and rather densely arranged on the shoots. The buds are resin coated and the cones rather small with the basal scales drawn downwards. There is a possibility that some shrubby pines found locally may belong to other *Pinus* species as they are tricky to separate and the cones and shoots of the dwarf forms can vary slightly from the normal forms. The upright form of Mountain Pine closely resembles *P. contorta* but the shorter needles and distinctive cones should allow separation.

Key locations for seeing some: Mugo: Nuneaton Cemetery (shrubberies near the NE entrance); Riversley Park, Nuneaton (small ones near the pool); Caldecott Park, Rugby (several in the rockery towards the plant nursery may be this or dwarf *P. contorta*); Warwick University (various places); Brownsover Hall Hotel (car park). Uncinata: Springfield House walled garden (0.47m GBH/2006); Crewe Lane Arboretum, Kenilworth; Newbold Revel (lots of newly planted ones in the north of the site); Keresley House, Coventry (apparently from Portugal); Ilmington (front garden of house directly north of church); Barton House, Barton on the Heath.

***Pinus nigra* – Black Pines (including Austrian, Corsican and Crimean Pines)**

Source: Central Europe (Austrian Pine, subspecies *nigra*, introduced to Britain in 1835), South Italy, Sicily and Corsica (Corsican Pine, subspecies *laricio*, introduced in 1759) and The Crimea, Turkey and SE Europe (Crimean Pine, subspecies *pallasiana*, introduced in 1790).

Distribution: Austrian Pine is frequent in local parks, larger gardens, cemeteries and shelterbelts and is the second most frequent pine of urban and landscaped settings after *P. sylvestris*. Corsican Pine is mainly encountered in coniferised woods, often as dense blocks and shelterbelts. Crimean Pine is occasionally found as old specimens in historic parks and gardens.

Further Notes: One of a number of local pines with needles arranged in batches of two's but with longer needles than species such as *P. sylvestris* and *P. contorta*. A mature Austrian Pine is one of the most attractive conifers,

very tall and typically with a long, straight trunk that often has long grey or pink plates neatly separated by darker fissures. The upper side limbs tend to be quite heavy and twisted (creating a rather top-heavy appearance with a dense canopy) in contrast to Corsican Pine, which is a much neater 'forestry' tree with light, straight side branches, scaly bark lacking strong stripes, and a less dense canopy. Austrian Pine also has slightly shorter needles than Corsican Pines (8-14cm as opposed to 12-18cm). Crimean Pine often has the effect of having been pollarded, with lots of vertical 'organ-pipe' stems arising from a short trunk, and has produced some of the largest *P. nigra* specimens in our area. However, separating these varieties from each other, and from some other pines such as *P. pinaster*, can be difficult, especially if cones and foliage are out of reach. The upper trunk and limbs never develop the red bark of *P. sylvestris* and *P. pinaster*, and the cones are much smaller than *P. pinaster* (10cm long as opposed to 15-20cm). Black Pines prefers warmer, hotter summers than most pines and Austrian pine is quite pollution tolerant.

Key locations for seeing some: Austrian Pine: Hampton in Arden: Hampton Manor (many, largest 3.52m GBH/2006), plus many fine ones along Station Road; Leamington Spa: Jephson Gardens (east of the Glass House), Christchurch Gardens (two fine ones) and Pump Room Gardens (a couple of younger ones); Coventry: London Road Cemetery (N sector) and Allesley Park (a fine one by the Hall); Compton Verney (some fine ones); Wootton Court Spinney, Leek Wootton (several fine ones); Warwick: Priory Park (a fine one near the highest point), Warwick Cemetery (many, the largest 3.40m/2006) and Warwick Castle (several); Hatton Park (close to the Birmingham Road); Baddesley Clinton (fine ones by lake, largest 2.95m/2006); Coombe Abbey (near visitor centre and north of Abbey); Ettington Park (3.02m/2006 in front of Hall); Rugby: Brownsover Hall Hotel (several fine ones, largest 2.90m GBH/2006), Caldecott Park and Clifton Road Cemetery; Upton House (a 3.23m/2006 one along entrance drive); Newnham Paddox Art Park (several large ones, largest 3.07m/2007); Berkswell Hall (largest 3.07m/2007); Umberslade Hall (up to 3.25m GBH/2007). Corsican Pine: Oversley Wood, near Alcester (several large blocks); Arley Wood, Old Arley (the dominant tree); Chantry Wood, near Meriden (the dominant tree); Rugby: Holbrooks Grange (in a shelterbelt N of the Grange) and Dunchurch Grange (along south boundary of grounds); Warwick Castle (a couple in Fox's Study area, largest 2.84m GBH/2007); Umberslade Hall (a fine tree of 2.79m GBH/2007 beside resident's car park seems to be Corsican). Probable Crimean Pine: Compton Verney (see below); Fox Covert, Avon Dassett (one of 3.66m/2007); Whichford (several at the junction leading to Cherington/Long Compton, largest 3.25m/2006). **Largest local specimen**: Compton Verney (a large Crimean Pine beside main car park, 3.75m GBH/2007).

***Pinus parviflora* – Japanese White Pine**

Source: Japan. Introduced to Britain in 1861.

Distribution: Rare locally, possibly only Brueton Park.

Further Notes: One of the most attractive pines, with short twisted blue-green needles that are strikingly white on their undersides and arranged in batches of five's. The older shoots retain many cones. The typical growth form in Britain is a spreading, shrubby tree. The wild form is far less distinctive, being

tall and greenish. Arolla Pine *P. cembra* is most similar, but has longer needles that are less obviously white on the underside, and an upright growth habit.

Key locations for seeing some: Brueton Park, Solihull (a couple, including a fine example beside the path leading from the Parkridge Centre to Malvern Park); Stratford golf Course (some very young ones); Keresley House, Coventry (a young one).

Largest local specimen: the largest one at Brueton Park (not yet measured).



Pine cones can vary greatly in size and shape, aiding identification: Bhutan Pine (left), Maritime Pine (middle), Monterey Pine (right).

***Pinus patula* – Jelecote Pine (Mexican Weeping Pine)**

Source: The cloud forests of E Mexico. Introduced to Britain in 1837.

Distribution: Only a single local site known.

Further Notes: A three-needled pine, with bright green, soft and slightly crinkled needles up to 25cm long that often hang from the level, white-bloomed shoots like an elegant curtain, making for one of the most attractive small pines.

Key locations for seeing some: Keresley House, Coventry (a young one near the giant *Magnolia acuminata*).

***Pinus peuce* – Macedonian Pine**

Source: The mountains of the SW Balkans. Introduced to Britain in 1864.

Distribution: Only a single local site known, though easily misidentified as a Weymouth Pine *P. strobus*.

Further Notes: A five-needled pine, very similar to Weymouth Pine *P. strobus* despite the fact that they come from different sides of the northern hemisphere (relics of five-needled pine populations that occurred across the northern hemisphere many millions of years ago). The shoots are entirely hairless (a tuft of hairs occurs behind each leaf bundle in *P. strobus*) and all the cone scales tend to incurve slightly (some curve out in *strobus*). In the few specimens seen, the foliage tends to be slightly denser than *P. strobus* and the individual needles slightly thicker. It is possible that some of the

Warwickshire specimens listed as *P. strobus* below may yet turn out to be *P. peuce*.

Key locations for seeing some: Keresley House, Coventry (a young one); possibly the tree at Wishaw Church (1.92m GBH/2007) - the cones seem more like Macedonian than Weymouth but foliage was too high to check.

***Pinus pinaster* – Maritime Pine**

Source: The Mediterranean coast from Portugal to Greece; also Morocco. Long-grown in Britain.

Distribution: Scarce locally but easily overlooked as *P. nigra* from a distance.

Further Notes: One of several pines with long needles (up to 25cm) in batches of two's though these tend to be particularly long, stiff and stout compared with *P. nigra* and *P. pinea*. One of the best identification features is the cones, which resemble those of *P. nigra* in shape but are a third or more larger (up to 20cm) and usually a rich reddish-brown with quite large curved projections in the middle of each cone scale. The bark of mature trees tends to be dark and coarsely ridged, often with flat, roundish plates of reddish bark (very different to the striated and scaly bark of *P. nigra*). This pine is a source of turpentine and rosin.

Key locations for seeing some: Brueton Park, Solihull (a mature tree overhangs the N boundary of the Park near the main car park); Warwick University, Westwood Campus (a 1.48m GBH/2007 specimen in the pinetum near the Jeffery Pine, plus another 1.81m/2007 specimen in a residential block nearby, no plates of reddish bark); Springfield House near Clifford Chambers (a Victorian specimen easily seen from A4300, 2.10m GBH/2007, plates of reddish bark); Frankton Manor (a fairly young one in garden); Great Alne (one in a field close to Alne House, easily seen from public footpath); Holbrooks Grange, Long Lawford (a tall one in garden, see below); Priors Park, Warwick (a young one that produced its first diagnostic cones in 2008). There is also a record for Warwick Castle ("road to stables" 1975), which needs checking. A roadside specimen near Station Rd - Forest Road junction, Dorridge, stated to be this species, was felled in 2005 (teste S. Jarman), though its identity was not confirmed.

Largest local specimen: Holbrooks Grange, Long Lawford (2.66m GBH/2008). A large specimen recorded at Fox Covert near Bitham House, Avon Dassett (3.42m GBH/1999) could not be found in 2007 and may refer to a *P. nigra* still there.

***Pinus pinea* – Stone (Umbrella) Pine**

Source: Mediterranean Europe and the Black Sea coasts of Turkey. Long-grown in Britain (the edible nuts have been found at Romano-British sites).

Distribution: Occasional in local parks, gardens, cemeteries and churchyards.

Further Notes: As a mature tree usually very distinctive, with a dense broad canopy like an umbrella, often on a short and twisted trunk. The leaves are in batches of two's but are longer (12-16cm), greener and more cylindrical than *P. sylvestris* and more closely resemble *P. nigra*. The buds characteristically have scales that curl strongly outwards and are fringed with whitish bristles (a character shared with *P. pinaster* – see above). The mature bark can resemble *P. sylvestris* in that it has flat plates separated by black fissures,

though the plates can be much redder and coarser than *P. sylvestris*. The distinctive cones are much larger and fatter than *P. sylvestris* and *P. nigra*, with inflated cone scales that resemble the segments of sweet corn. They typically disintegrate whilst still attached to the tree and rarely drop (in contrast to *P. sylvestris*, *P. pinaster* and *P. nigra*). The seeds they contain are edible and an important ingredient of Italian pesto sauce.

Key locations for seeing some: Holy Trinity Church, Stratford (a fine one beside the church with a wonderfully twisted, mostly horizontal trunk); Warwick University (one in Westwood Campus); Warwick: The Paddocks' cul de sac near the Station (in a front garden) and Warwick Castle (a small, weak one in Fox's Study, though a large one was reported there in 1975); Brueton Park, Solihull (three south of the river near the Brewer Spruces); Crewe Lane Arboretum, Kenilworth (two, grown from Spanish cones); Packington Park (one in park W of the Hall); Keresley House, Coventry (several young ones); Shipston on Stour Cemetery (SE corner by road).

Largest local specimen: Holy Trinity Church, Stratford (1.79m @ 1m/2007, though trunk horizontal at this point).

***Pinus ponderosa* – Ponderosa Pine (Western Yellow Pine)**

Source: W Rocky Mountains. Introduced to Britain in 1827.

Distribution: No confirmed living trees known locally today, though older records exist.

Further Notes: Very similar to Jeffrey Pine *P. jeffreyi* with long (up to 22cm), stiff needles in batches of three's; but the cones are somewhat smaller and more pointed, the foliage less bluish and the young shoots are shiny orange or green and apparently never blue-bloomed. The bark is usually redder.

Key locations for seeing some: There is a record for Warwick Castle (Fox's Study, 1955) though this was not found in 2006. A young specimen listed as *P. ponderosa* at Keresley House, Coventry has the blue-bloomed shoots that are characteristic of *P. jeffreyi*.

***Pinus radiata* - Monterey Pine**

Source: S California (as a wild tree confined to just three cliffs around Monterey). Introduced to Britain in 1833.

Distribution: Occasional specimens in local parks, churchyards and larger gardens.

Further Notes: Despite its rarity in the wild, much introduced around the world, and especially numerous in coastal areas of southern Britain. It can mature into one of the largest, most spreading pines (often matching a large Cedar of Lebanon), with very rugged bark. However, most local specimens are young and not particularly distinctive yet. The rather dense, deep-green foliage consists of moderately long (up to 16cm), soft needles arranged in batches of three's. The cones are about 15cm long with particularly bulbous cone scales that lack projections. Other 3-needled species like *P. ponderosa* and *P. jeffreyi* have much longer stiffer needles and cone scales with backwardly-directed projections. The cones stay closed and attached to the branches in small clusters for 50 year or more and require fire to mature them and allow seed dispersal.

Key locations for seeing some: Barton on the Heath (a magnificent row of perhaps 200 specimens on a ridge north of village, most over 2.5m

GBH/2008, the largest 3.31m); Jephson Gardens, Leamington Spa (one at NE corner and another south of the toilets); Priory Park, Warwick (the collapsed pine near the tall pear tree); Kenilworth (several at west end of Castle Hill and along Roseland Road-St Johns Street; Wootton Court Spinney, Leek Wootton (a tall one along W edge); Lower Brailes (medium-sized one in garden at top of Sutton Lane); Stoneleigh Deer Park Golf Course (medium-sized one behind lodge house at start of track leading to Deer Keeper's Lodge); Newton Regis church (a medium-sized one). A large one used to be present at Warwick Castle (Fox Covert, 4.27m GBH/1955, but could not be found in 2007).

Largest local specimen: Wootton Court Spinney (3.50m GBH/2007). A very large specimen of 4.27m @ 0.8m/1955 was reported by the Hon. Maynard Greville at Fox's Study, Warwick Castle, but appears to have been lost.



Warwickshire's two largest pine specimens, a Crimean Pine beside the Compton Verney car park (left) and a Scots Pine in Farnborough Park's rose garden (right).

***Pinus strobus* - Weymouth Pine (Eastern White Pine)**

Source: E North America, especially in the areas around the Great Lakes. Introduced to Britain in 1705 by Capt. George Weymouth – hence the name.

Distribution: Occasional in local parks, cemeteries, larger gardens and rarely within plantations.

Further Notes: A five-needled pine like Bhutan Pine *P. wallichiana*, and with similar cones. However, the needles rarely exceed 10cm (usually 15-20cm and strongly drooping in *P. wallichiana*) and the cones are typically 15cm long (usually 20-25cm in *P. wallichiana*). The needles are particularly soft and fine in this species. Macedonian Pine *P. peuce* is almost identical (it lacks hair tufts beneath each leaf bundle and has cone scales all curved inwards) and some local *P. strobus* specimens may yet prove to be that species.

Weymouth Pine is far less frequent in Britain today than in the past as it is very susceptible to fungal blister rust, which has killed many older trees prematurely.

Key locations for seeing some: Springfield House, Temple Balsall (a 2.08m GBH/2006 specimen near the main entrance); Elmdon Park (a tall one of 1.97m GBH/2006 in woods bordering the Land Rover works); War Memorial Park, Coventry (one near the Leamington Road car park); Warwick: Warwick Cemetery (a medium-sized one with cones in the far field), Priory Park (a young one, cones produced in 2006); Stoneleigh Abbey (a fine one near the pet's cemetery); Crewe Lane Arboretum, Kenilworth (two); Town Thorns, Brinklow (several with some *P. wallichiana* to compare them against); Willoughby Church (a fine one of 1.97m GBH/2007); Keresley House, Coventry (a young one); Middleton Hall (two young ones in the Glade); Warwick Castle (young ones in car park, but larger ones used to be present); Oversley Wood (one in arboretum zone, 1.44m GBH/2007).

Largest local specimen: Stoneleigh Abbey (2.20m GBH/2007).

***Pinus sylvestris* - Scots Pine**

Source: A native of Scotland, as well as many parts of Europe and northern Asia, though it was a native of Warwickshire several thousand years ago after the last ice age, when the first 'pioneer' tree species swept north to colonise the newly-thawed landscape. Pines eventually became displaced by the broadleaved woodland.

Distribution: Widespread and frequent in parks, gardens, shelterbelts, roadsides and plantations but scarcer on lime-rich soils.

Further Notes: Our most familiar pine and usually easy to distinguish from other pines through a combination of the pinkish-orange bark on the upper trunk and branches and the bluish-green foliage. The needles of mature trees are relatively short for a pine (5-7cm) and are arranged in batches of two's. The buds are pointed with outcurved scales lacking whiskered edges. The lower trunk can be beautifully marked with small plates of pink or grey bark separated by black fissures, the bark becoming smoother and redder higher up. The form 'Aurea' has yellower foliage, especially in winter. 'Watereri' is a rather stunted form with short needles that can resemble an oversized bonsai specimen.

Key locations for seeing some: Formal settings: Dunchurch (many along the Coventry Road towards Thurlaston and the Rugby Road); Warwick: Priory Park (along the south edge) and Warwick Castle (numerous specimens); Stratford riverside between the Theatre and Holy Trinity Church (several specimens, largest 2.43m DBH/2006); Stoneleigh Abbey and Stoneleigh Deer park Golf Course (many fine ones in various places); Jephson Gardens, Leamington Spa (several); Parkridge Centre, Solihull (many mature ones); Warwick Castle (numerous specimens); Baddesley Clinton (several, though a very fine one of 3.61m GBH/2006 on the lawn near the entrance was lost in 2008); Halford Church (a 3.60m GBH/2006 specimen but with crown much reduced); Newnham Paddox Art Park (several, largest 3.02m/2007). Aurea: Jephson Gardens, Leamington Spa (near the Caucasian Oak); Brueton Park, Solihull (in the pinetum zone). Watereri: Barton House, Barton on the Heath. Plantations and woods: Oversley Wood, Bush Wood, Clowes Wood, Piles

Coppice (some very fine ones along south edge, largest 3.06m GBH/2007), Brandon Wood.

Largest local specimen: Farnborough Park (in the rose garden, 3.70m GBH/2006, but forks at head height; Stareton (road verge beside the Abbey Business Park, 3.64m GBH/2007 for a good trunk).

***Pinus wallichiana* - Bhutan (Blue) Pine**

Source: The Himalayas. Introduced to Britain in 1823.

Distribution: Occasional as mature Victorian trees in local historic properties, cemeteries and churchyards, but still being incorporated in new planting schemes including within public parks and larger private gardens.

Further Notes: The combination of long (usually 15- 20cm), fine, drooping needles in batches of five's and very long cones makes separation from most other local pines easy, even from a distance. Weymouth Pine *P. strobus* also has needles in fives but they are much shorter (8-12cm) and even finer, producing a very different looking tree, and the cones average smaller.

Key locations for seeing some: London Road Cemetery, Coventry (a very fine one close to the main entrance); Jephson Gardens, Leamington Spa (a couple of young ones); Caldecott Park, Rugby (a medium-sized specimen at north end); Wootton Court Spinney, Leek Wootton (several fine ones, largest one 2.80m GBH/2006); Town Thorns, Brinklow (several, largest 2.37m/2006, with some *P. strobus* to compare against); Newnham Paddox Pinetum (2.30m/2007); Berkswell Hall (2.11m/2007); Umberslade Hall (one in spinney SW of Hall 2.63m GBH/2007); Clifton on Dunsmore (one in small spinney beside church 2.40m GBH/2007 adjusted for ivy); Haseley Manor (1.80m GBH/2007).

Largest local specimen: London Road Cemetery (2.87m GBH/2006), though the Wootton Court trees are much taller). A specimen of 3.27m/1950 was reported by the Hon. Maynard Greville in the pageant grounds of Warwick Castle but appears to have been lost.

***Platyclusus orientalis* – Oriental (Chinese) Thuja**

Source: China (where seemingly extinct as a wild plant). Introduced to Britain in 1752 - one of the first Chinese introductions.

Distribution: As a large shrub or small tree it is occasional in local churchyards and cemeteries, also in a few parks and larger gardens. Dwarf varieties seem to be increasingly common in gardens throughout our area, and are sold by many local garden centres.

Further Notes: This conifer most often takes the form of a dense bush or small tree. The most distinctive feature is the cone, which bears prominent hooked 'claws' quite unlike any other conifer. The foliage is rather nondescript for a 'cypress' and is a similar shade of green on both sides (like *Thuja occidentalis*) and does not give any scent when crushed in contrast to true *Thujas*. Form 'Elegantissima' is a dense, more upright form with sprays of yellowish foliage oriented in vertical planes, often featured in garden shrubberies and rockeries.

Key locations for seeing some: Warwick, Leamington, Kenilworth and Shipton on Stour Cemeteries; Hampton Manor, Hampton in Arden (SE corner of main lawn); Ashorne Manor (a small 'Elegantissima' close to Malvern House); Ettington Park (one on main lawn south of Hall); Middleton Hall (two

tall ones in the Glade, largest 1.23m @ base/2006); Birdingbury Hall (one in garden, 1.29m GBH/2007); churchyards at Salford Priors (a very fine, tall one, see below), Hampton Lucy, Binton, Long Itchington, Wappenbury, Birdingbury, Claverdon, Welford on Avon; Lillington (Parish Church, 1.66m @ 0.4m/2007, forking at 0.8m), Mappleborough Green, Polesworth, Butlers Marston (an 'Elegantissima'), Arrow, Haselor, Budbrook and Darlingscott. **Largest local specimen:** Salford Priors Church (1.90m GBH/2006, seemingly the largest single-stemmed specimen in Britain).



Oriental Thuja is popular in its dwarf form as a garden shrub, but the tall specimen at Salford Priord Church is a national champion. The clawed cones of this species are unmistakable.

***Podocarpus totara* – Totara**

Source: New Zealand. Introduced to Britain in 1847.

Distribution: Only one site known locally and rare nationally.

Further notes: One of New Zealand's largest trees (*totara* is the Maori name). Podocarps are an ancient group of southern hemisphere conifers, typically with fleshy fruits. The Totara is one of the more hardy species but still struggles to grow in all but the mildest parts of Britain.

Key locations for seeing some: Keresley House, Coventry (a young one plus some specimens of the dwarf Alpine Totara *P. nivalis*).

***Prumnopitys andina* – Chilean Plum Yew (still here?)**

Source: S Central Andes. Introduced to Britain in 1860.

Distribution: Possibly lost locally.

Further Notes: A somewhat yew-like conifer that tends to form a bush or multi-stemmed tree with smooth, black-grey bark. The edible, green, plum-like fruits are rarely produced in Britain.

Key locations for seeing some: A 1956 record exists for Fox's Study, Warwick Castle ('a large bush'), though it was not found there in 2006.



Despite the superficial resemblance to silver firs and spruces, Douglas Fir has unmistakable cones with three-pointed ligules (left); the bases of the needles are inserted into round holes and are not 'pegged' like a spruce or 'suckered' like a silver fir.

***Pseudotsuga menziesii* - Douglas Fir**

Source: Western N America (mainly the Rockies) from British Columbia to Mexico. Introduced to Britain in 1827, though initially discovered in 1793.

Distribution: Occasional in local parks, churchyards, gardens, cemeteries and woods.

Further Notes: A large conifer superficially resembling a silver fir. The best clue is the cone, which has 3-pointed bracts that project conspicuously between the cone scales. These hang like spruce cones (which never have bracts) and are never upright like those of an *Abies* fir (which often have bracts). You can usually find lots of them beneath the tree. The foliage resembles species like Caucasian Fir *Abies nordmanniana*, though the bud is long and slender like a beech and the crushed foliage, which is rather soft to the touch, gives a sweet, fruity smell. The base of the needles lack the wooden peg of a spruce, or the green sucker of an *Abies* fir. More mature specimens tend to develop a rather untidy mop-headed top to the canopy, a good clue from a distance and a rugged bark. This is a very fast-growing tree that currently holds the tallest tree in Britain record (a 62 metre Scottish specimen), and many British trees have exceeded 55 metres. It once held the tallest tree in the world record (trees exceeding 120 metres were encountered during the Gold Rush), but these were quickly felled for their fine timber. There is a bluish form 'Glauca' (Blue Douglas Fir) with much bluer leaves. Seedlings have been found growing at Oversley Wood.

Key locations for seeing some: Formal settings: Springfield Centre, Temple Balsall (several fine ones); Warwick Castle (some fine specimens, the largest one measured is in Fox's Study, 3.06m GBH/2006m); Ragley Hall (in the garden and some plantations); Baddesley Clinton (two fine ones near the

lake); War Memorial Park, Coventry (one near the Leamington Road car park); Wootton Court Spinney, Leek Wootton (a couple, the largest 2.70m GBH/2006); Warwick University, Westwood Campus (in the pinetum); Startford Golf Course (many but conditions possibly too dry so growth rather weak). Warwick Cemetery (several young ones in northern section); Moreton Hall, Moreton Morrell (west of Hall); Wroxall Abbey (several, largest 2.61m/2006); NAC Showground, Stoneleigh (along east side in the forestry zone); Newnham Paddox Art Park (2.43m/2007); churchyards at Bilton (St Mary's) and Sambourne. Woodlands: Oversley Wood (in the arboretum area); Oakley Wood near Bishops Tachbrook (quite numerous); Thickthorn Wood, Kenilworth (several fine ones, largest measured 2.69m GBH/2008) and the nearby Glasshouse Wood (one of 2.56m GBH/2008 near A46 footbridge). Glauca: Warwick University, Westwood Campus (a young specimen beside the Stone Pine).

Largest local specimen: Shuckburgh Park, behind Hall (3.89m GBH/2007).

***Sciadopitys verticillata* – Japanese Umbrella Pine**

Source: Japan, where rare and endangered. Introduced to Britain in 1853.

Distribution: Rare locally.

Further Notes: A very distinctive conifer distantly related to redwoods, with 12cm long, thick needles arranged in whorls along the shoot. Given time it produces a medium-sized, conical tree.

Key locations for seeing some: Crewe Lane Arboretum, Kenilworth (a fairly young specimen); Keresley House, Coventry (a young one); Barton House, Barton on the Heath (three planted in 1992). One was also recorded at Wootton Court Spinney, Leek Wootton in 1992 but could not be found during surveys in 2006-07.

***Sequoia sempervirens* - Coast Redwood (*Sequoia*)**

Source: Western USA, along a narrow belt of the coastal hills from central California to the Oregon border. Introduced to Britain in 1843.

Distribution: Scattered large specimens of Victorian origin in several local woods and historic parks and gardens; also a few young specimens in local municipal parks and private gardens.

Further Notes: This is the less common of the two 'giant' redwoods that we find locally and is easily distinguished from Giant Sequoia (*Wellingtonia*) *Sequoiadendron giganteum* by its flattened yew-like foliage. It also tends to be a less neat looking tree with a silhouette more resembling an *Abies* fir, though it shares with Giant Sequoia the possession of soft, reddish-brown bark that you can push your fingers in to. It often suckers from its base (unusual for a conifer) and can occasionally produce a neat ring of satellite trunks, most notably a tree at Keresley House. This species currently holds the world record for tree height (112.4m for 'Howard Libbey' in California) and some specimens may be over 2,500 years old! However, it never attains the robustness of a mature Giant Sequoia and seems to be slower growing in the Midlands.

Key locations for seeing some: Leamington Spa: Jephson Gardens (several, especially near main entrance), Wych Elm Drive (several with accompanying *Sequoiadendron*); Stoneleigh Abbey (several in the gardens and several in The Grove wood across river, largest measured in latter 5.46m

GBH/2010); Thickthorn Wood, Kenilworth (several, largest measured 4.74m GBH/2008); Ettington Park (two fine ones alongside some *Sequoiadendron*); Bitham Hall and Bitham Hill, west of Avon Dassett (several); Coombe Abbey Arboretum (in the Redwood zone, including a young one that might confuse you); Hampton Manor, Hampton in Arden (several on lawn west of the Manor, largest 4.03m/2006); Newbold Revel, Brinklow (some fine ones with accompanying *Sequoiadendron*); War Memorial Park, Coventry (one near the Leamington Road car park); Wootton Court Spinney, Leek Wootton (several fine ones with accompanying *Sequoiadendron*); Ufton (a 5.46m/1999 specimen recorded by the WOT Survey but not rediscovered); Arbury Park (about 20 fine specimens along main entrance drive leading south from Arbury Road, the largest measured 5.15m GBH/2009); Keresley House, Coventry (a 3.65m GBH/2007 central trunk surrounded by a ring of eight satellite trunks); Umberslade Hall (several fine ones, largest measured 4.40m GBH/2007).

Largest local specimen: Ettington Park (6.04m GBH/2006).



Left: A large Coast Redwood (foreground) contrasted with a Wellingtonia behind at Ettington Park. Wellingtonia grow fastest of the two and many of our Victorian specimens like this one at Umberslade Park (right) have girths of 7-8 metres.

***Sequoiadendron giganteum* – Wellingtonia, Giant Sequoia (Giant Redwood)**

Source: California, where wild stands are restricted to just seventy-two groves on the west flank of the southern Sierra Nevada range. Discovered in the 1850s during the American goldrush and introduced to Britain in 1853 via Russia.

Distribution: Very frequent in our area – a popular tree of historic parks and gardens, cemeteries, shelterbelts and occasionally on farmland. This amounts

to several hundred locations in all and it was clearly much loved by Victorian plantsmen would never have appreciated how large they would grow.

Further Notes: The tallest tree you will find in many parts of our area, some specimens probably already attaining 40 metres from about 150 years of growth. The stringy foliage (with short leaves pressed against the shoot) can only really be confused with some forms of Japanese Red Cedar *Cryptomeria japonica*, but if you crush them they give a smell of aniseed, and the cones are rather different. Large specimens acquire a very distinct, neatly conical, blunt-topped shape with strongly downswept branches. Unfortunately (and perhaps not surprisingly) many specimens become damaged by lightning strikes. But beware young specimens, which are very different-looking, neatly conical trees with foliage that meets the ground and without the soft red bark so characteristic of older trees. Some older local trees have self-layered, with lower branches burying themselves and giving rise to smaller satellite trees (most notably a tree at Berkswell Hall). The oldest local trees (those with girths exceeding 6.5 metres) tend to originate from the mid 1800s, and some are said to have arisen from some of the first batches of seeds bought into the country. Form 'Aureum' has dull yellowish foliage and is very rare in Britain. 'Glauca' has bluish foliage and is also scarce. 'Bultinck Yellow' is a more recently developed yellowish form. The Giant Sequoia holds the world record for the largest tree in weight terms. 'General Sherman' in California was recently measured as nearly 90 metres high, over 24 metres round the trunk and with an estimated weight of 1,000 tons! Coast Redwood *Sequoia sempervirens* can also produce a very tall tree with similar bark, but has yew-like leaves and is a rather different shape.

Key locations for seeing some: Moreton Hall (an impressive avenue of 76 trees in 2007 along the long driveway, possibly the longest avenues in Britain, though individual trees are not especially large); Compton Verney (many large ones, several exceeding 7m GBH/2007 in the avenue by the car park, other large ones occur around the Hall); Coombe Abbey Arboretum (many, the largest 7.60m/2006 in the avenue NE of the arboretum); Walton Hall (several by the entrance); Studley Castle (an avenue leading to the Castle, largest tree 5.95m GBH/2007); Umberslade Hall and Park (many fine ones, the largest measured 7.67m GBH/2007); Wych Elm Drive, Leamington Spa (several, with some accompanying *Sequoia*); Ashow Hill (behind the Conference Centre); Ragley Hall Gardens; Brueton Park, Solihull (several); Springfield Centre, Temple Balsall (several large ones, largest 7.57m GBH/2006, including two self-layered ones); London Road Cemetery, Coventry; Wootton Court Spinney, Leek Wootton (largest 5.70m GBH/2007, some *Sequoia* nearby); Stratford Riverside Gardens (a young one between the Theatre and Holy Trinity); Grandborough (a pair beside the Church); Hampton Manor, Hampton in Arden (largest 7.0m GBH/2006, some *Sequoia* nearby); Bitham Hall (6.96m GBH/2006, apparently planted by Joseph Knight in c1850 using the first batch of British seeds); Ettington Park (largest measured 6.65m/2006); Berkswell Hall (two fine ones, the largest 7m GBH/2007 with eight major satellite trunks and several smaller ones). Aureum: Packington Park (a fairly large one towards N edge of garden W of Great Hall, one of only a handful in Britain). Mixed forms: Barton House, Barton on the Heath has young specimens of 'Glauca' and 'Bultinck Yellow' in addition to large specimens of the type form.

Largest local specimen: The largest clean-trunked specimen is at Compton Verney within the double avenue near the main car park (7.70m GBH/2007). There is a specimen close to the entrance of Walton Hall of 9.08m @ 1m waist /2006 immediately below a large side branch, but the girth is much narrower above this side branch.



Coast Redwood foliage (left) is rather yew-like in contrast to the stringy foliage of *Wellingtonia* (right).

***Taxodium distichum* - Swamp Cypress**

Source: Eastern USA, especially along tidal creeks and riverside swamps in the Everglades and along the Mississippi and its tributaries. Introduced to Britain in 1640.

Distribution: Occasional in local parks, historic grounds and cemeteries, but increasingly popular in modern planting schemes.

Further Notes: A deciduous 'redwood' (not a cypress), closely related to Dawn Redwood *Metasequoia glyptostroboides* but with shorter leaflets arranged alternatively along the shoot rather than in opposite pairs) and domed rather than pointed crowns to trees. Swamp Cypress produces a fine rusty autumn colour before the foliage is dropped. Mature specimens can develop conspicuous aerial projections ('knees') from the roots which are thought to help the aeration of the root system, though locally this has only been noted in the specimen close to the RSC Theatre in Stratford. The form 'Shawnee Brave' has a particularly upright habit. Var. 'Imbricatum' (Pond Cypress) is a highly distinctive tree with filamentous side shoots that curve upwards and have only inconspicuous, scale-like needles.

Key locations for seeing some: Stratford Riverside Park (two large riverside ones S of the RSC Theatre, that by Ferry 3.30m GBH/2006, that S of Theatre 2.85m/2007); Jephson Gardens, Leamington Spa (two east of the fountain

lake, with a *Metasequoia* conveniently placed west of the lake for comparison); Brueton Park, Solihull (several with some *Metasequoia* nearby); Warwick Castle (a couple); Coughton Court (a fine one); Stoneleigh Church (a fine one); London Road Cemetery, Coventry (a couple); Riversley Park, Nuneaton (a young one); Upton House (one in bog garden near a *Metasequoia*); Packington Park (two fine ones west of the Hall); Fox Covert, Avon Dassett (a fine one along south edge of wood, 3.21m/2007); Arbury Hall (a fine one of 3.58m @ 1m just below fork/2009 W of hall; a larger one is said to grow on an island of one of the lakes in Arbury Park); Woodcote House, Leek Wootton (a couple of medium-sized ones beside the lake); Rock Mill Arboretum, Milverton (young planting of 'Shawnee Brave'). Imbricatum: Warwick Castle (the larger of the two *Taxodiums* by the river, 2.0m GBH/2009); Talton Hall near Newbold on Avon (one of 0.43m GBH/2007 easily seen from lane); another is rumoured to exist in Coventry (teste Keith Clark).

Largest local specimen: the larger Packington Park specimen (3.45m GBH/2006, the smaller one is 3.27m). A specimen of 3.49m/1887 was reported from Coombe Abbey (Tree Register dataset) but is not there today.



A particularly fine specimen of Swamp Cypress in its autumn splendour at the Stratford-on-Avon ferry crossing (left). The foliage (right) is similar to Dawn Redwood, but the leaflets are not strictly opposite.

***Taxus baccata* – Common Yew**

Source: A native tree (one of our three native angiosperms) that was widely present in the natural 'Wildwood' that covered Britain after the last Ice Age. Also found widely in Europe, E to Iran and in N Africa.

Distribution: Frequent in local parks, larger gardens and cemeteries; also frequently planted in woodlands, which masks its natural status, though occasionally found as a seemingly wild tree in our ancient woods.

Further Notes: Britain's longest-lived tree (some are reckoned to be several thousand years old), though few veterans are found in our area. Many varieties exist including a 'fastigate' (upright) form called 'Irish Yew', a very spreading form called 'Westfelton Yew', plus various yellow-leaved varieties. The leaves are typically arranged in a flat plane on either side of the shoot, but as dense whorls in forms like 'Adpressa' and 'Fastigiata Aurea'. Trees are either male or female, and only the latter produces the characteristic red (rarely yellow) berries. Yews can grow into a respectable, broad-crowned tree some 20 metres high. It also makes a wonderful hedge and is ideal for topiary with fine examples at Packwood House, Coombe Abbey and Stratford's New Place Gardens.



Yews come in many shapes and colours and contribute greatly to the treescapes of local churchyards and cemeteries e.g. Meriden Church (left). Specimens are either male or female, the latter featuring berries (right).

Key locations for seeing some: Woodland: Thickthorn Wood and nearby Glasshouse Wood, Kenilworth; Clowes Wood, Earlswood; Hartshill Hayes, Hartshill; Piles Coppice, Binley Woods. Churchyards: Few churchyards or cemeteries lack Yews, but noteworthy ones include: Wixford Church (an old specimen apparently planted in 1780 with wooden supports for its spreading crown, but trunk only 2.85m GBH/2006); Haselor Church (one particularly large one of 5.60m around a solid lower trunk/2007); Priors Hardwick Church (several large ones, largest 4.60m GBH/2006); Holy Trinity Church and adjacent riverside, Stratford (several varieties); Meriden Church (a large specimen in front of Church, 4.44m @30cm/2006); St Mary's Church, Warwick (several varieties). Other formal locations: Packwood House (a formal garden full of trimmed Yews); Coombe Abbey (various forms including some fine Yew hedging at the Abbey end of the lake); Jephson Gardens, Leamington Spa (some tall ones behind the café plus a fine Westfelton Yew near the Glass House); New Place's Great Garden, Stratford (some impressively trimmed shrubberies); Henley in Arden High Street (near Milking Lane); Ragley Hall Garden (a very large specimen, 5.70m GBH/2006 around a solid trunk); Compton Verney (some pre-1700 specimens up to 5.30m girth

around multi-stemmed bases/2006 and further tall specimens near the car park); Upton House (many fine ones, largest measured 4.30m GBH/2007); Studley Castle (a fine Westfelton Yew on the lawn).

Largest local specimen: Lessington House, Leamington Hastings (in garden behind house, 6.43m @ base/2007).

***Taxus x media* – Hick's Yew (requires confirmation)**

Source: A hybrid between Common Yew *T. baccata* and Japanese Yew *T. cuspidata* developed in 1900.

Distribution: Rare locally.

Further Notes: Always a female plant (so bearing red berries) and a shape resembling Irish Yew (the upright form of Common Yew). Not easy to separate from *T. baccata*, but ruit larger, leaves yellower beneath and tipped by a soft but distinct spine.

Key locations for seeing some: At least one was planted at Crewe Lane Arboretum, Kenilworth and it is possible that a yew surviving there is that one, though it has not been critically checked.

***Tetraclinis articulata* – Sandarac**

Source: The Atlas Mountains of Algeria, Morocco and Tunisia; with outlying populations in Malta and SE Spain. Date of introduction to Britain unknown.

Distribution: Rare locally and nationally.

Further notes: A shrubby, slow-growing conifer of the cypress family, with filamentous sprays of shoots rather resembling some *Cupressus* species. The resin (sandarac) is used to make varnish and lacquer, and is valued for preserving paintings. It is the national tree of Malta.

Key locations for seeing some: Jephson Gardens, next to the path towards the NE corner, though most had been removed shortly after being recorded in 2006.

***Thuja* – Thujas or Arbor-vitae**

Conifers of the cypress family with foliage resembling false cypresses *Chamaecyparis* and Incense Cedars *Calocedrus*. However, the rather elongate cones allow easy separation. Six species exist worldwide, within N America and the Far East. The various species differ in details of their foliage (including smell when crushed), cones and overall shape.

***Thuja occidentalis* – Eastern White Cedar**

Source: E North America. Introduced to Britain perhaps as early as 1536 – the first American tree introduced here.

Distribution: Occasional in local parks, cemeteries and gardens.

Further Notes: *T. occidentalis* can be distinguished from the familiar *T. plicata* by the much matt foliage that is dull yellowish-green below without any white markings. When crushed, the foliage produces an apple-like smell. It is a smaller, slower-growing tree than *T. plicata* and generally looks less neat and healthy. A number of different forms are present, including the yellow and more shapely 'Aurea'.

Key locations for seeing some: Warwick: Warwick Cemetery (several, the largest 1.15m GBH/2006, with plenty of *T. plicata* to compare them against) and St Nicholas Park, (one directly west of café); Leamington Spa:

Greenwood Court adjacent to Upper Holly Walk and Newbold Comyn Golf Course; Brueton Park, Solihull (a large one near Malvern Park plus a young 'Aurea' in the pinetum (beside the large *Leylandii*) and a small one along boundary with the Parkridge Centre); Caldecott Park, Rugby (several near Council building); Compton Verney (east shore of lake, quite a large one); Crewe Lane Arboretum, Kenilworth (a 'Holmstrup' specimen); Town Thorns, Brinklow (several, including a tall specimen 1.28m GBH/2006); Brinklow Cemetery (a fine one near entrance); Nether Whitacre Church; Hatton Park (in 'pinetum' beside the Birmingham Road, 0.96m GBH/2007); Arrow Church; Keresley Church, Coventry (dead on one side).

Largest local specimen: Brinklow Cemetery (1.94m @ 70cm, below forks, possibly the largest in England based on girth).

Thuja orientalis* – see *Platycladus orientalis

***Thuja plicata* - Western Red Cedar**

Source: Western N America from Alaska to California and inland to Montana (where it is one of the tallest conifers after redwoods). Introduced to Britain in 1853.

Distribution: Frequent in local woods, parks, older gardens, churchyards and cemeteries though less frequent than *C. lawsoniana*.

Further Notes: Typically forming an attractive, fairly tall, neatly conical conifer with bright green foliage that has flatter, shinier and thicker sprays than most other members of the cypress family (note that it is not a 'cedar' and has typical cypress-type foliage). The undersides of the shoots have faint white markings and the foliage gives a pleasant pineapple smell when crushed. The bark is reddish and stringy. *T. plicata* is a popular timber tree, occasionally grown commercially in Britain, where it is a useful source of long, strong poles such as rugby-posts. It is also occasionally used in hedging. There is an attractive variegated form called 'Zebrina' which has yellow bands running across the leaf sprays, quite unlike any other yellow cypress-type conifer. Locally it cannot attain the height and trunk girth of specimens in the wetter and cooler north and west of Britain, but older trees have often layered resulting in a ring of smaller 'satellite' trees around the main one. It has been widely planted in local commercial woods and prolific natural regenerations from seeds is taking place at Oversley Wood and South Cubbington Wood.

Key locations for seeing some: Compton Verney (several, including a nice 'Zebrina' in the car park, plus some 'trunked' specimens in front of the House, largest 3.17m GBH/2008); Jephson Gardens (several specimens north of the Glass House and a multistemmed one by the aviary cafe); Warwick Cemetery (many fine ones, including 'Zebrina', some trees with suckers); Moreton Hall, Moreton Morrell (some fine specimens, including 'Zebrina' in front of the Hall); Ragley Hall Gardens (several); Allesley Park, Coventry (several fine ones); Coombe Abbey Arboretum (a fine layered one with a main stem of 2.42m GBH/2007); Springfield House, Temple Balsall (several); Brueton Park, Solihull (including a 'Zebrina' near Malvern Park); Wootton Grange Spinney, Leek Wootton (several fine ones); Newnham Paddox (several fine ones, some layered, see below); various local churchyards, including Holy Trinity Church, Stratford (a fine one close to entrance avenue), Keresley Church, Coventry (several fine ones up to 2.45m GBH/2007 and several 'Zebrina'), St Nicholas

Church, Kenilworth (several, largest 2.72m GBH/2007), Southam Church (several alongside Market Hill). Plantations and other woods: Numerous in Hay Wood, Oversley Wood, South Cubbington Wood and Bubbenhall Wood with some in Whichford Wood. Hedges: Nuneaton Cemetery (NW entrance); Moreton Hall, Moreton Morrell (by Hall); Miner's Welfare Park, Bedworth. **Largest local specimen**: Single-trunked: Newnham Paddox Art Park (3.36m GBH/2007). Layered: Springfield House, Temple Balsall (a massive specimen on the corner of the main lawn with numerous satellite trunks, main trunk 2.76m/2007); Packington Hall and Keresley House have slightly smaller layered ones.



Western Red Cedar foliage showing the flat, shiny sprays of leaves characteristic of this species and flask-shaped cones that characterise Thuja species in general (left); Several early Victorian specimens, like this one at Temple Balsall's Springfield House (right) have layered to create massive canopies.

***Thujopsis dolabrata* – Hiba**

Source: Japan, where it is an important forestry tree. Introduced to Britain in 1853.

Distribution: Rare locally.

Further Notes: One of the most attractive members of the cypress family with strangely flattened sprays of deep green, glossy foliage that have a striking white pattern on the undersides. The cones resemble those of *Chamaecyparis*.

Key locations for seeing some: Warwick University (some medium-sized ones in the Westwood Campus pinetum); Brueton Park, Solihull (a couple of small specimens along the boundary fence with the Parkridge Centre, but easily overlooked); Compton Verney (a fine specimen east of the lake); Keresley House, Coventry (a couple of young ones).

Largest local specimen: Compton Verney (trunk not easily measured but clearly larger than other local specimens).

***Torreya nucifera* – Japanese Nutmeg**

Source: Japan. Introduced to Britain in 1764.

Distribution: Only a single local site known.

Further Notes: A rather yew-like conifer closely resembling plum yews (*Cephalotaxus*) which are also occasionally found locally. The rather plum-like fruit contains a tasty nut.

Key locations for seeing some: Barton House, Barton on the Heath.



The strikingly patterned underside of Hiba foliage (left). Chusan Palm at Warwick Castle (right), one of the few palms that will grow in our area.

***Trachycarpus fortunei* – Chusan Palm**

Source: SE Asia. Introduced to Britain in 1836.

Distribution: Occasional in local parks and gardens.

Further Notes: One of the hardiest palms, with large, fan-shaped leaves. There is also a smaller (or more slow-growing) version, sometimes regarded as a separate species *T. wagnerianus* (Miniature Chusan Palm or 'Waggie') which has stiffer leaves. Any conspicuously pale-grey 'Chusan Palms' are likely to be Mexican Blue Pam *Brahea armata* or form 'Argentea' of Dwarf Fan Palm *Chamaerops humilis* (the latter has smaller, stiffer, greyer leaves with viciously spined stalks).

Key locations for seeing some: Jephson Gardens, Leamington Spa (one near fountain pool); Warwick Castle (a couple of medium-sized ones in Fox's Study); Coombe Abbey (south end of arboretum by lake); Miner's Welfare Park, Bedworth (some young ones); Keresley House, Coventry (a young one); Keresley House, Coventry (the owner lists both the type form and *T. wagnerianus*); Barton House, Barton on the Heath.

***Tsuga* – Hemlocks**

Evergreen conifers of the northern hemisphere (nine species in N America and the Far East), related to pines, spruces and firs, but typically with short-flattened leaves that produce a rather yew-like effect. However, no other group of conifers with yew-like foliage produces similar cones. The two locally

found species are easily distinguished from each other by the arrangement of the leaves.

***Tsuga canadensis* – Eastern Hemlock**

Source: E North America. Introduced to Britain in 1736.

Distribution: Rare locally.

Further Notes: Often a rather shapeless tree never attaining the height or majesty of Western Hemlock *T. heterophylla*. It is easily identified by the line of leaves lying flat along the top of the shoots with their pale grey undersides facing up. It is occasionally found as a dwarf form in shrubberies.

Key locations for seeing some: Wootton Court Spinney, Leek Wootton (three mature specimen, possibly of national significance); Coombe Abbey (several in the fenced area north of the arboretum, largest 2.06m GBH/2006); Brueton Park, Solihull close to the Parkridge Centre (a large bush); Bitham Hall (a medium-sized one beside driveway near Hall); Ragley Hall Gardens (a medium-sized one); Wroxall Abbey (a few, the largest 2.79m/2006). Dwarf form: Warwick Castle (rose garden) and Coventry's War Memorial Park (in the sunken Japanese garden).

Largest local specimen: Wootton Court Spinney (largest 3.56m GBH/2006).

***Tsuga heterophylla* - Western Hemlock**

Source: NW North America from Alaska to California - the tallest tree over much of this range. Introduced to Britain in 1851.

Distribution: Very occasional in local parks, gardens and woods.

Further Notes: This can grow into a very large tree, even in Britain, matching many redwoods for height (70 metres is recorded in parts of the Rockies and 51 metres in Scotland). It is also one of the most attractive conifers as it typically develops a neat, spire shape with cascading, pendulous foliage that can remain thick to the ground. The shoots lack the line of strange reversed leaves aligned to the top of the shoot characteristic of *T. canadensis*.

Key locations for seeing some: Formal locations: Hampton Manor, Hampton in Arden (a magnificent specimen close to the Craft Centre and a smaller one in the woods); Stoneleigh Abbey (several at edge of the wood across the river); Kenilworth: Dalehouse Lane (a young specimen in a private collection) and Crewe Lane Arboretum (several); Haseley Manor (one of 2.56m GBH/2007); Leek Wootton Police HQ (a couple of young specimens); Newnham Paddox Art Park; Barton House, Barton on the Heath. Woodlands: Oversley Wood (various places); Oakley Wood, near Bishop's Tachbrook (quite numerous in places, largest measured 1.82m GBH/2008); Whichford Wood (a small patch); The Grove, near Stoneleigh Abbey (several facing the Abbey).

Largest local specimen: Hampton Manor (5.17m GBH/2007 and 28m high).

***Tsuga sieboldii* – Southern Japanese Hemlock**

Source: Japan. Introduced to Britain in 1861.

Distribution: Only one local site and scarce nationally.

Further Notes: A rather shapeless small hemlock, superficially like *T. canadensis* but with very different foliage with notched needle tips.

Key locations for seeing some: Newnham Paddox, in the Art Park, west of the Lower Pool – seemingly a Victorian specimen with three trunks probably

from a single root stock (images checked by Owen Johnson). The largest trunk is 1.67m @ 20cm/2007, becoming 1.22m @ 1.5m above a low split.



Warwickshire's finest Western Hemlock, a Victorian specimen at Hampton Manor, Hampton in Arden (left); foliage of Eastern Hemlock showing the lines of 'underside-up' needles along the shoots (right).

***Wollemia nobilis* – Wollemi Pine**

Source: Rainforests of the Wollemi National Park of New South Wales, Australia, where it was discovered growing in a series of remote gorges in 1994 (making international news). Commercially released to European countries in 2006.

Distribution: Only a single locality is currently known to the author, though it is commercially available from some British garden centres and nurseries.

Further Notes: Like the Dawn Redwood, this is a relatively recently discovered 'living fossil' that is now starting to be planted far from its ancestral home. It is not a pine, but a relative of the Monkey Puzzle with foliage rather resembling that of Chinese Fir *Cunninghamia* or the nutmegs *Torreya*. In the wild it can grow to over 40 metres height. It remains critically rare in the wild (essentially restricted to just three sites) and some of the wild trees have recently become infected with a *Phytophthora* fungus.

Key locations for seeing some: Jephson Gardens, Leamington Spa (at least two planted in about 2008).

***Xanthocyparis nootkatensis* - Nootka Cypress**

Source: The Rockies, from Oregon to Alaska, where it grows in cool cloud forests just below the glaciers and is very long-lived. Introduced to Britain in 1854.

Distribution: Fairly frequent in local parks, gardens, churchyards and cemeteries.

Further Notes: Closely resembling a *Chamaecyparis* or *Leylandii* (the latter being a hybrid of Nootka Cypress and Monterey Cypress *Cupressus macrocarpa*). Most easily distinguished from both by the cones, which are about 1cm across and with conspicuous pointed projections arising from each scale. These take two years to mature and are bloomed purple-blue in their first year. *Chamaecyparis* cones have at most weak projections, whilst cones of *Leylandii* are either bigger, or have smaller spines. Three forms are recorded locally. Older and larger trees are of the 'type' form, which is usually neatly and broadly triangular with moderately pendulous foliage. There are also some local specimens of the highly pendulous variety 'Pendula' (the 'Afghan Hound Tree'), which produces long 'curtains' of hanging shoots from the branches. These are all relatively young. Form 'Argenteovariegata' has cream-coloured sprays within its green foliage (but beware similar forms of *Leylandii*). The foliage smells of turpentine when crushed and is harsh to the touch when rubbed the wrong way.



Nootka Cypress can produce one of the neatest-looking conifers, e.g. at Shuckburgh Hall (left). The small cones (right) are purple-bloomed with conspicuous pointed projections. It is one of the parents of *Leylandii*.

Key locations for seeing some: Normal form: London Road Cemetery, Coventry (about twenty medium-sized ones, largest 1.61m GBH/2006); Long Itchington Church (two, the largest multistemmed one 4.24m @ base/2006); Town Thorns, near Brinklow (2.37m/2006); Leamington Cemetery (a couple of nice ones, the largest is a leaning one near the chapel, 2.60m GBH/2006); Clifton Road Cemetery, Rugby; Warwick Cemetery (one along E edge); Newbold Revel, near Brinklow (beside lake); Coombe Abbey Arboretum (a tall one in arboretum amongst the redwoods, 1.60m/2006); Walton Hall (a fine multi-stemmed one near main entrance); Berkswell Hall (a layered one with main trunk of 1.66m/2007); St Botolph's Church, Newbold, Rugby

(1.86m/2007); Shipston on Stour Cemetery; Southam Church; Welcombe Hotel, near Stratford (a fine one of 2.34m GBH/2007 beside car park).

Pendula (all fairly young): Warwick Castle (Fox's Study area); Brueton Park, Solihull (in the pinetum zone); Ragley Hall Gardens (one near the big Noble Fir); Talton Hall near Newbold on Avon (a couple). Argenteovariegata: Miner's Welfare Park, Bedworth (a young one near entrance).

Largest local specimens: The largest single-trunked specimen is a fine tree at Lighthorne Church (2.61m GBH/2007). A large multi-stemmed specimen can be found at Walton Hall near the main entrance (the largest of its 6-7 stems is 2.15m GBH/2006) and Shuckburgh Park has a specimen with a main trunk of 2.59m GBH/2007 above several low side branches and a very good crown.