



Ghent University Botanical Garden

***Acer* L. (Sapindaceae)**

**VEGETATIVE KEY TO SPECIES
CULTIVATED IN WESTERN EUROPE**

Jan De Langhe

(October 2007 - 12 January 2012)

Vegetative key.

This key is based on vegetative characteristics visible during the longest period of the year. Fruits are rarely needed.

Taxa treated in this key: see page 14.

Taxa referred to synonymy in this key: see page 15.

Questionable taxa in this key: see page 16.

To improve accuracy:

- Use a hand lens to judge bud scale scars and indumentum.
- Characteristics like indumentum and presence of milky juice can decrease during autumn.
- Do look at the mature plant as a whole. Young specimens and strong shoots give an atypical view.
- Beware of hybridisation, especially with plants raised from seed gathered in collections.

Characteristics based on:

- JDL herbarium specimens
- living specimens in various arboreta, botanic gardens and collections
- literature:

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<http://www.plantentuin.ugent.be>

1 a	Lamina compound, leaflets ≥ 3 (sometimes simple lamina present).	2
b	Lamina always simple.	10
2 a	Lamina digitately 5-7-foliolate.	<i>A. pentaphyllum</i> (Pentaphylla)
b	Lamina 3-foliolate or pinnately 5-9-foliolate.	3
3 a	Lamina LS completely glabrous.	<i>A. glabrum</i> subsp. <i>neomexicanum</i>
b	Lamina LS pubescent at least along/on midvein.	4
4 a	Terminal bud covered by 2 valvate scales, shoot at base with 2-3 pairs of bud scale scars. Sectio NEGUNDO .	5
b	Terminal bud covered by imbricate scales, shoot at base with >5 pairs of bud scale scars. Sectio TRIFOLIATA .	7
5 a	Leaflets 3-5(-7-9). IF always 3: terminal leaflets of whole tree clearly variable, terminal and lateral leaflets of one lamina often different in shape.	<i>A. negundo</i> (Negundo/Negundo)
-	Shoot +/- glabrous.	
-	Leaflets 3-7(9), ≥ 3 cm wide.	<i>A. negundo</i> subsp. <i>negundo</i>
-	Leaflets 3, ≤ 3 cm wide.	<i>A. negundo</i> subsp. <i>mexicanum</i>
-	Shoot pubescent.	
-	Leaflets 3(-5?), LS glabrous or slightly pubescent on midvein.	<i>A. negundo</i> subsp. <i>interius</i>
-	Leaflets 3-7, ovate, (at first) densely and white pubescent.	<i>A. negundo</i> subsp. <i>californicum</i>
b	Leaflets always 3. Terminal leaflets of whole tree +/- similarly shaped, terminal and lateral leaflets of one lamina +/- similar in shape.	6
6 a	Leaflet margin ciliate (LENS), and coarsely serrate to dentate. Shoot green, 2 nd year shoot woody and greenish brown.	<i>A. cissifolium</i> (Negundo/Cissifolia)
b	Leaflet margin glabrous (LENS), entire or with a few small teeth, BUT on strong shoots and young plants often serrate (dentate). Shoot and 2 nd year shoot green, not woody.	<i>A. henryi</i> (Negundo/Cissifolia)
7 a	Petiole glabrous. Leaflet margin +/- regularly serrate, ≥ 10 teeth/side.	<i>A. mandshuricum</i> (Trifoliata/Mandshurica)
b	Petiole pubescent. Leaflet margin +/- entire to coarsely and bluntly dentate or dentate to lobed, <8 teeth/side.	8
8 a	Bark smooth. Leaflet margin +/- entire to dentate with teeth almost equally sized.	<i>A. maximowiczianum</i> (Trifoliata/Grisea)
b	Bark fissured or peeling. Leaflet margin irregularly dentate to lobed.	9
9 a	Bark cinnamon coloured, peeling in papery horizontal curls. Lamina LS pubescence on veins +/- adpressed to directed forward.	<i>A. griseum</i> (Trifoliata/Grisea)
b	Bark grey-beige, coarse and fibrous, vertically fissured. Lamina LS pubescence on veins perpendicular.	<i>A. triflorum</i> (Trifoliata/Grisea)
-	Bark vertically fissured and/or horizontally peeling, lamina with characteristics between the parents.	<i>A. griseum</i> \times <i>A. maximowiczianum</i>
10 a	Bud covered by 2 valvate scales AND/OR shoot at base with 2(-3-4) pairs of bud scale scars.	11
b	Bud covered by several decussate scales AND shoot at base with ≥ 4 pairs of bud scale scars.	36

- 11 a Lamina LS without membranous domatia in vein axils - LENS (sometimes vague, +/- green-yellow bark stripes on trunk, branch, shoot). Sectio **GLABRA**, **PARVIFLORA** and **PALMATA**. . 12
- b Lamina LS with membranous domatia in vein axils - LENS - sometimes difficult to examine, e.g. *A. tschonoskii*: look from lamina apex straight in vein axils (often conspicuous blue-green bark stripes on trunk, branch and shoot). Sectio **MACRANTHA**, (**PARVIFLORA**). 20
- 12 a Vegetative shoot with terminal bud rarely reduced, results in long shoot. 13
- b Vegetative shoot with terminal bud reduced or absent and then with 2 lateral buds, results in false dichotomy. Sectio **PALMATA**. 74
- 13 a Lamina lobed **AND** terminal lobe wider than long **AND** average 15-20 cm across.
..... **A. nipponicum** (Parviflora/Parviflora)
- b Lamina lobed **AND** terminal lobe longer than wide, **OR** lamina unlobed. Lamina <15 cm across. 14
- 14 a Bark rough, +/- peeling and/or flaking. Indumentum yellowish to +/- rusty coloured, mainly on bud, top petiole (veins LS). **A. caudatum** (Parviflora/Caudata)
- Lamina margin finely serrate. Lobes acuminate, sharply serrate at apex. **A. caudatum** subsp. **caudatum**
 - Lamina margin coarsely serrate. Lobes acute to acuminate, entire at apex. **A. caudatum** subsp. **ukurunduense**
- b Bark smooth or slightly fissured. Indumentum whitish, fading or absent. 15
- 15 a Lamina LS pale green to blue-green **AND** fully glabrous. **A. glabrum** (Glabra/Glabra)
- Lamina <6 cm across. **A. glabrum** subsp. **glabrum**
 - Lamina >6 cm across. **A. glabrum** subsp. **douglasii**
- b Lamina LS green to grey-green **AND** at least with pubescence in vein axils. 16
- 16 a Lamina unlobed, **OR** with 2 shallow lateral lobes. **A. stachyophyllum** (Glabra/Arguta)
- Multi-stemmed **AND** invasive suckers from base. Lamina often <5 cm. **A. stachyophyllum** subsp. **betulifolium**
 - Multi-stemmed. Lamina often >5 cm. **A. stachyophyllum** subsp. **stachyophyllum**
- b Lamina 3-5-lobed. Lateral lobes often >2 cm. 17
- 17 a Terminal lobe coarsely toothed, <15 teeth/side. 18
- b Terminal lobe more finely toothed (to double-serrate), >15 teeth/side. 19
- 18 a Midvein length 8-17 cm. Terminal lobe widening at base, sinus between lobes sharp, not narrow. **A. spicatum** (Parviflora/Caudata)
- b Midvein length <10 cm. Terminal lobe narrowing at base, sinus between lobes narrow.
..... **A. barbinerve** (Glabra/Arguta)
- 19 a Lamina 3-5-lobed, smooth/soft to the touch, midvein length >10 cm. Lobes caudate, acumen entire. **A. acuminatum** (Glabra/Arguta)
- b Lamina (3-)5(-7)-lobed, rough to the touch, midvein length <10 cm. Lobes acuminate, acumen completely serrate. **A. argutum** (Glabra/Arguta)
- 20 a Mature lamina unlobed, **OR** unlobed and shallowly 3-lobed, **OR** shallowly 3-lobed (lobes <1,5 cm). 21
- b Mature lamina mainly clearly 3-lobed (lobes >2 cm), **OR** 3-5-lobed. 27

- 21 a Lamina midvein length >10 cm AND petiole ≤4 cm AND margin entire or partly entire and serrulate. *A. sikkimense* (Macrantha)
- b Lamina midvein length ≤10 cm, OR petiole >4 cm, OR margin different (never entire to serrulate). 22
- 22 a Lamina LS secondary veins +/- vague: shallowly raised and +/- green. *A. crataegifolium* (Macrantha)
- b Lamina LS secondary veins prominent: clearly raised and pale yellow. 23
- 23 a Unlobed lamina +/- 2 x longer than wide. Lamina never wrinkled or bulged, sometimes (shallowly) 3-lobed AND sinuses of lateral lobes near the base. 24
- b Unlobed lamina clearly <2 x longer than wide. Lamina sometimes wrinkled or bulged, sometimes (shallowly) 3-5-lobed AND sinuses of lateral lobes near the middle. 25
- 24 a Lamina 7-14 x 4-8 cm AND petiole always red, often >4 cm. *A. pectinatum* subsp. *laxiflorum* (Macrantha)
- b Lamina ≤10 x 4 cm AND petiole green sometimes partly red, <3(-4) cm. *A. caudatifolium* (Macrantha)
- 25 a Lamina unlobed, acumen entire. *A. distylum* (Parviflora/Distyla)
- b Lamina unlobed to shallowly 3-lobed, acumen serrate. 26
- 26 a Lamina LS with domatia obvious, ALSO in axils between secondary veins and tertiary veins (LENS!).
- Lamina (mostly) <15 cm, +/- flat to +/- wavy, never faint or wrinkled. Very variable species. *A. davidii* (Macrantha)
 - Midvein length usually >7 cm, unlobed or with 2 weak lateral lobes. *A. davidii* subsp. *davidii*
 - Midvein length often <7 cm, shallowly 3-5-lobed (unlobed on old and weak shoot). *A. davidii* subsp. *grosseri*
 - Lamina 10-30 cm, often curved/bulged and faint/wrinkled (*A. davidii* x *A. pensylvanicum*). *A. xconspicuum*
- b Lamina LS with domatia only in axils between midvein and secondary veins (LENS!). *A. morifolium* (Macrantha)
- 27 a Terminal and lateral lobe almost parallel at base (sometimes +/- overlapping), sinus very narrow and deep. 28
- b Terminal and lateral lobe diverging at base, sinus wide to very wide. 29
- 28 a Terminal lobe L/W: ≥2/1. *A. micranthum* (Macrantha)
- b Terminal lobe L/W: +/-3/2. *A. tschonoskii* (Macrantha)
- Lobes acuminate. Petiole and shoots not or vaguely red. *A. tschonoskii* subsp. *tschonoskii*
 - Lobes acuminate to +/- caudate. Shoot and petiole red tinged to conspicuously red. *A. tschonoskii* subsp. *koreanum*
- 29 a Young shoot clearly covered with +/- whitish-blue bloom (real shoot colour scarcely or not at all visible). 30
- b Young shoot different. 31
- 30 a Lamina obovate, base truncate to subcordate, LS with rusty coloured hairs on venation and in vein axils (fading characteristic). *A. rufinerve* (Macrantha)
- b Lamina orbicular, base deeply cordate, LS glabrescent. *A. tegmentosum* (Macrantha)

- 31 a Lamina midvein length usually 12-25 cm. *A. pensylvanicum* (Macrantha)
 - Lamina often curved or bulged and faint or wrinkled. Lateral lobes sometimes shallow or absent.
 Hybrid between *A. davidii* and *A. pensylvanicum*. *A. xconspicuum*
- b Lamina midvein length usually $\leq 10-15$ cm. 32
- 32 a Lamina midvein length average ≤ 7 cm, mostly with 2 small lateral lobes 1-2 cm, sometimes a few laminae unlobed. *A. davidii* subsp. *grosseri* (Macrantha)
- b Lamina midvein length average > 7 cm, OR lamina 3-5(-7)-lobed or at least in part 5-lobed. 33
- 33 a Lamina 3-lobed; OR 5-lobed with terminal lobe $\leq 1/2$ as wide as lamina width.
 *A. pectinatum* (Macrantha)
 - Lamina 5-lobed.
 - Terminal lobe $\leq 1/2$ midvein length, lateral lobes ovate-triangular and caudate.
 Margin finely and sharply serrate with +/- 1 teeth per mm. *A. pectinatum* subsp. *pectinatum*
 - Terminal lobe $\geq 1/2$ midvein length, lateral lobes triangular and gradually acuminate.
 Margin +/- irregularly and coarsely serrate. *A. pectinatum* subsp. *maximowiczii*
 - Lamina 3-lobed.
 - Terminal lobe $\geq 1/2$ midvein length. Lateral sinus below the middle of lamina. Lamina margin double serrate.
 *A. pectinatum* subsp. *forrestii*
 - Terminal lobe $1/3-1/2$ midvein length. Lateral sinus often above the middle of lamina. Lamina margin very fine and sharply serrate with +/- 1 teeth per mm. *A. pectinatum* subsp. *taronense*
- b Lamina variably 3-5(-7)-lobed AND the 5-lobed with terminal lobe $> 1/2$ as wide as lamina width. 34
- 34 a Lamina clearly 5-lobed (-shallowly 7-lobed). LS basal vein axils sometimes brownish pubescent - LENS (petiole often $> 1/2$ midvein length). *A. rubescens* (Macrantha)
- b Lamina 3-5-lobed with shallow basal lobes, sometimes appearing unlobed. LS basal vein axils sometimes whitish pubescent - LENS (petiole often $\leq 1/2$ midvein length). 35
- 35 a Lamina sometimes +/- unlobed, usually 3-5-lobed, lateral lobes at least in part of the leaves shallow < 1 cm. *A. capillipes* (Macrantha)
- b Lamina 3-5-lobed, lateral lobes always > 1 cm. *A. metcalfii* (Macrantha)
- 36 a Petiole lactiferous when broken off or cut through (also damaged shoots, buds and larger veins may show this). Sectio **PLATANOIDEA** and **LITHOCARPA**. 37
- b Petiole not lactiferous or juice is hyaline (LENS: white pit or fibrous texture in the petiole may bear resemblance to milky sap!). 48
- 37 a Terminal lobe fully entire (no lamina with toothed terminal lobe). 38
- b Terminal lobe with ≥ 1 tooth, OR at least so for several leaves. 42
- 38 a Shoot and 2nd(-3th) year shoot green and not woody, sometimes (partly) red to brown, sometimes with bluish bloom. 39
- b Shoot green (sometimes quickly woody) and 2nd year shoot woody, +/- striate and grey- to brownish. 40
- 39 a Lamina unlobed and shallowly 3-lobed, OR 3-5-lobed, OR 5-lobed and simultaneously terminal lobe wider than long (texture rigid and firm, base cordate). *A. amplum* (Platanoidea)
 - Lamina (3-)5-lobed.
 - Terminal lobe often (much) wider than long = 'broad shouldered lamina'. *A. amplum* subsp. *amplum*
 - Terminal lobe often $> 1/2$ midvein length. *A. amplum* subsp. *bodinieri*
 - Lamina unlobed to 3-lobed.
 - Lamina 3-lobed, sinus between lobes +/- acute, lobes directed sideward. *A. amplum* subsp. *tientaiense*

- Lamina unlobed to shallowly 3-lobed, resembling *Catalpa*. *A. amplum* subsp. *catalpifolium*
- b Lamina 5-lobed AND terminal lobe much longer than wide, OR 5-7-lobed, IF lamina 3-lobed then midvein length <7 cm (texture thin, papery, base truncate to +/- cordate).**
..... *A. cappadocicum* (Platanoidea)
- Tree with smooth bark. Lamina 5-7-lobed.
 - Crown round and broad. Shoot green, sometimes lightly bloomed. Lamina 5-7-lobed, LS pubescent mainly limited to basal vein axils. *A. cappadocicum* subsp. *cappadocicum*
 - Crown conspicuously columnar. Shoot clearly bloomed. Lamina mainly 5-lobed (small leaf sometimes 3-lobed), margin more undulated, LS pubescent often in all vein axils. *A. cappadocicum* subsp. *lobelii*
 - Small tree, bark often ridged. Lamina 5-lobed.
 - Lamina <10 cm across. Lobes long acuminate, narrow with deep sinuses. *A. cappadocicum* subsp. *sinicum*
 - Lamina ≤7 cm across. Lobes short, +/- blunt to acuminate (lamina texture sometimes firm, various forms cultivated). Shoot quickly reddish brown. Small tree with entangled branches.
..... *A. cappadocicum* subsp. *divergens*
- hybrids with 5- to shallowly 7-lobed lamina, with terminal lobe entire as well as with terminal lobe slightly toothed:
- Terminal lobe entire as well as with rounded teeth. Characteristics between *A. campestre* and *A. cappadocicum*.
..... *A. xzoeschense*
 - Terminal lobe entire as well as with rounded and acute teeth.
 - Teeth rounded to acute at tip. Lamina margin undulate and initially ciliate. Lamina LS and petiole less pubescent than in *A. miyabei* (especially obvious on young leaves). Characteristics between *A. cappadocicum* and *A. miyabei*. *A. xhillieri*
 - Teeth acute and sometimes bristly at tip. Characteristics between *A. cappadocicum* and *A. platanoides*.
..... *A. xverhaegheanum*
- 40 a Lamina LS pubescent. Lamina 3-5-lobed.** *A. longipes* (Platanoidea)
- b Lamina LS glabrous, except venation and/or vein axils, OR lamina LS densely pubescent but then lamina >5-lobed.** 41
- 41 a Lamina 3-, or shallowly 5-lobed, rarely unlobed, small +/- ≤6 × 6 cm.** *A. tenellum* (Platanoidea)
- b Lamina 5-7(-9)-lobed, >6 × 6 cm. Very variable species, numerous subspecies with only a few cultivated.** *A. pictum* (Platanoidea)
- Lamina LS fully pubescent. Lamina 5-7-lobed. *A. pictum* subsp. *pictum*
 - Lamina LS glabrous or pubescent only on midvein and secondary veins.
 - Lamina 5-7-lobed. *A. pictum* subsp. *mono*
 - Lamina 7-9-lobed. *A. pictum* subsp. *okamotoanum*
- 42 a Lobe acumen (and teeth) often bristle-like narrowing (petiole and lamina margin glabrous).**
..... 43
- b Lobe acumen acute or rounded, not bristle-like narrowing (petiole often pubescent, lamina margin ciliate - fading in autumn and on mature lamina).** 44
- 43 a Terminal lobe >1/2 midvein length, entire OR with ≤2 teeth (rarely more small teeth); LS with shallow secondary veins and glabrous vein axils.** *A. truncatum* (Platanoidea)
- b Terminal lobe <1/2 midvein length, always toothed, often with more, (sinuous) teeth; LS with prominent secondary veins and pubescent vein axils.** *A. platanoides* (Platanoidea)
- Large tree.
 - Lamina +/- uniform. Lobes obviously toothed, often several teeth/side. Lamina LS pubescent in vein axils.
..... *A. platanoides* subsp. *platanoides*
 - Lamina very variable in shape, sometimes on the same shoot: Some hybrids (see also 41b):
 - Laminas like *A. platanoides* as well as (smaller) laminas like *A. truncatum* with lobes less (bristly) toothed. Characteristics between both parents. *A. platanoides* × *A. truncatum*
 - Teeth acute and/or bristly. Characteristics between *A. cappadocicum* and *A. platanoides*.
..... *A. xverhaegheanum*

- Lobes sometimes absent, supposed hybrid between *A. cappadocicum* subsp. *lobelii* and *A. platanoides* (sometimes regarded as a form of the latter). *A. xdieckii*
- Shrub or small tree. Lobes less toothed. Lamina LS pubescent. *A. platanoides* subsp. *turkestanicum*
- 44 a Lamina midvein length $\geq 15-30$ cm. *A. macrophyllum* (Lithocarpa/Macrophylla)
- b Lamina midvein length ≤ 15 cm. 45
- 45 a Terminal lobe with obtuse teeth OR with rounded as well as acute teeth. 46
- b Terminal lobe with acute teeth. 47
- 46 a Lamina average ≥ 8 cm. Terminal lobe apex acute to acuminate, mainly with 1-2 teeth/side. Indumentum prominent: often as well on lamina US as LS, especially on venation and petiole. *A. miyabei* (Platanoidea)
- Lamina with 3 lobes. Terminal lobe acuminate, lateral lobe rather +/- obtuse. *A. miyabei* subsp. *miaotaiense*
- Lamina with 5 lobes. Terminal and basal lobes acuminate.
 - Margin with obtuse teeth. Lamina LS and petiole obviously pubescent. *A. miyabei* subsp. *miyabei*
 - Margin with acute to obtuse teeth. Lamina LS and petiole less pubescent (especially so on young laminae). Characteristics between *A. miyabei* and *A. cappadocicum*. *A. xhillieri*
- b Lamina average ≤ 8 cm. Terminal lobe apex blunt to acute, mostly entire or with 1(-2) teeth /side. Indumentum less obvious: more restricted to venation (mainly less on lamina US and petiole or lacking there). See also hybrids. *A. campestre* (Platanoidea)
- Lamina 5- (shallowly 7-) lobed. Terminal lobe narrowing towards its base. Lateral lobes long, with 1-2 shallow rounded teeth. Characteristics between *A. campestre* and *A. cappadocicum*. *A. xzoeschense*
- Lamina 3- (shallowly 5-) lobed. Terminal lobe widest at base. Lateral lobes short, +/- acuminate, entire or almost so. Characteristics between *A. campestre?* and *A. monspessulanum*. *A. xbornmuelleri* (Acer/Monspessulana)
- 47 a Terminal lobe clearly narrowing at base and wider above the middle. Terminal lobe AND lateral lobe with ≥ 2 prominent teeth/side. *A. diabolicum* (Lithocarpa/Lithocarpa)
- b Terminal lobe widest at base, with 1 (or 2) small acute teeth/side AND lateral lobes entire or almost so. *A. sinopurpurascens* (Lithocarpa/Lithocarpa)
- 48 a Bud, terminal shoot, internode and fruit +/- stiffly pubescent (<< in autumn).
..... *A. sterculiaceum* (Lithocarpa/Lithocarpa)
- Lamina 3-lobed, remarkably thick, >15 cm across. Lateral lobes often small. Margin coarsely toothed to entire.
..... *A. sterculiaceum* subsp. *thomsonii*
- Lamina 3-(more-) lobed, thick. Lateral lobes prominent.
 - Lamina 3- (shallowly 5-) lobed, <15 cm across. Margin irregularly, distantly and coarsely dentate. Fruits a few in short infructescence. *A. sterculiaceum* subsp. *franchetii*
 - Lamina 3-5-(7-) lobed, >15 cm across. Margin more regularly toothed. Fruits numerous in long infructescence. *A. sterculiaceum* subsp. *sterculiaceum*
- b Bud, shoot and fruit never simultaneously +/- stiffly pubescent. 49
- 49 a Lamina simultaneously unlobed, margin sharply double-serrate AND secondary veins >15-20/side. *A. carpinifolium* (Indivisa)
- b Lamina different. 50
- 50 a Lamina leathery AND fully wintergreen AND with caudate apex ("driptip") AND unlobed or both unlobed and 3-lobed. Sectio **PENTAPHYLLA**, **HYPTIOCARPA**. 51
- b Lamina different. Sectio **ACER**, **GINNALA**, **PUBESCENTIA**, **RUBRA**, (**PENTAPHYLLA**). 56
- 51 a Lamina LS and petiole pubescent (fading in autumn). *A. coriaceifolium* (Pentaphylla/Trifida)
- b Lamina LS and petiole glabrous. 52

- 52 a Shoot and 2nd year shoot green, not woody. Secondary veins ≤6/side (lamina up to +/- 18 x 8 cm). **A. laurinum** (Hyptiocarpa)
- b Shoot green, brownish or reddish, 2nd year shoot woody and brown. Secondary veins ≥6/side, OR lamina 3-lobed at least in part. 53
- 53 a Shoot (pale) green. Lamina midvein length <10 cm, ovate to oblong ovate, <2 x longer than wide AND 3-lobed in part of the leaves (margin shallowly dentate at first, entire later).
..... **A. paxii** (Pentaphylla/Trifida)
- b Shoot brownish to reddish AND/OR lamina midvein length >10 cm. Lamina sometimes 3-lobed. 54
- 54 a Lamina (broadly) ovate to oblong ovate, <2 x longer than wide AND/OR lamina 3-lobed in part of the leaves. **A. discolor** (Pentaphylla/Trifida)
- b Lamina oblong ovate, 2 x longer than wide, rarely 3-lobed. 55
- 55 a Lamina basal veins clearly visible. **A. oblongum** (Pentaphylla/Trifida)
- b Lamina basal veins inconspicuous. **A. albopurpurascens** (Pentaphylla/Trifida)
- 56 a Lamina deeply 3-lobed AND terminal lobe narrow, ≥3/4 midvein length, usually longer than lateral lobes (on strong shoots lobes more equal in size).
Sectio PUBESCENTIA. **A. pilosum** (Pubescentia)
- b Lamina different (terminal lobe never so slender and narrow).
Sectio, GINNALA and (ACER, PENTAPHYLLA, RUBRA). 57
- 57 a Lamina never palmately 5-lobed: unlobed to 3-lobed or pinnately 5(-7)-lobed. 58
- b Always palmately 5-lobed lamina present. Lamina 3-5(-7) lobed. 66
- 58 a Lamina +/- <1,5 cm across, margin with sharp, fine +/- prickling teeth. **A. hyrcanum** subsp. **reginae-amaliae**
- b Lamina different, larger. 59
- 59 a Lamina apex acute to acuminate. 60
- b Lamina apex rounded to obtuse, at least so for most of laminas. 63
- 60 a Lamina margin irregularly coarsely serrate-dentate. 61
- b Lamina margin entire OR partly entire and shallowly (+/- adpressed) serrate. 62
- 61 a Lamina LS pale blue-green, clear contrast with the US green colour.
Sectio (RUBRA). **A. pycnanthum** (Rubra)
- b Lamina LS green, little or no contrast with US colour.
Sectio GINNALA. **A. tataricum** (Ginnala)
- Lamina midvein length <4 cm. **A. tataricum** subsp. **semenovii**
 - Lamina midvein length >7 cm.
 - Lamina unlobed, or with shallow lobes <1 cm deep, also sometimes lobed towards apex.
..... **A. tataricum** subsp. **tataricum**
 - Lamina lobed at base.
 - Lobes apex blunt. Lamina margin +/- bluntly serrate. **A. tataricum** subsp. **aidzuense**
 - Lobes apex acute to acuminate. Lamina margin sharply serrate. **A. tataricum** subsp. **ginnala**

- 62 a Lamina partly entire and shallowly (+/- adpressed) serrate, LS often pale green to blue-green. Sectio (**PENTAPHYLLA**). **A. buergerianum** (Pentaphylla/Trifida)
- Lamina mainly 3-lobed.
 - Lobes directed forward, lamina LS pale blue-green. **A. buergerianum** subsp. **buergerianum**
 - Lobes directed sideward, lamina LS remarkably blue-green. **A. buergerianum** subsp. **ningpoense**
 - Lamina unlobed to (shallowly) 3-lobed. **A. buergerianum** subsp. **formosanum**
- b Lamina fully entire, rarely with an obtuse little teeth. Similar but totally unrelated hybrid, characteristics between presumed parents: *A. monspessulanum* and *A. campestre*? **A. xbornmuelleri** (Acer/Monspessulana)
- 63 a Lamina 3-lobed **AND** with presence of some unlobed laminas. 64
- b Lamina always 3-lobed. 65
- 64 a Lamina planar to +/- undulate, <4 cm, margin entire (rarely with some shallow little teeth).
..... **A. sempervirens** (Acer/Monspessulana)
- b Lamina often convex, ≤6 cm (juvenile >), margin shallowly toothed (sharply on juvenile, becoming entire on adult). **A. obtusifolium** (Acer/Monspessulana)
- 65 a Lateral lobes apex +/- in or below (never clearly above) the middle of lamina. Terminal lobe longer than wide, rounded to obtuse at apex. **A. monspessulanum** (Acer/Monspessulana)
- Tree or small tree. Samara green.
 - Lamina average <7 cm, LS +/- glabrous, only base pubescent. **A. monspessulanum** subsp. **monspessulanum**
 - Lamina average >7 cm, LS densely pubescent. **A. monspessulanum** subsp. **ibericum**
 - Dense shrub. Samara red. Lamina LS +/- with rusty pubescence. **A. monspessulanum** subsp. **turcomanicum**
- Shrub to small tree, lamina larger than *A. monspessulanum*, colour grey-green to yellow-green, Lobes often with more (shallow) teeth. **A. pentapomicum** (Pubescentia)
- b Lateral lobes apex **clearly** above the middle of lamina. Terminal lobe wider than long, rounded to obtuse. Similar hybrids, lamina mainly 3-lobed, sometimes a few shallowly 5-lobed.
- Lamina remarkably thick and strong, characteristics between *A. monspessulanum* and *A. opalus*?
..... **A. xcoriaceum** (Acer/Monspessulana)
 - Lamina not so remarkably thick and strong, extremely similar hybrids, parents presumed.
 - Characteristics between *A. opalus* and *A. pseudoplatanus*? **A. xhybridum**
 - Characteristics between *A. monspessulanum* and *A. opalus* subsp. **obtusatum**? **A. xrotundilobum**
- 66 a Terminal lobe ≥2/3 midvein length, at least so for most of laminas. 67
- b Terminal lobe ≤1/2 midvein length, at least so for most of laminas. 68
- 67 a Terminal lobe with <6 teeth/side **AND** +/- straight basal part. **A. heldreichii** (Acer/Acer)
- Terminal lobe narrow, **L/W**: ≥3/1 **AND** >3/4 midvein length. Teeth obtuse/rounded. **A. heldreichii** subsp. **heldreichii**
 - Terminal lobes wide, **L/W**: ≤2/1 **AND** <2/3 midvein length. Teeth obtuse to acute. **A. heldreichii** subsp. **trautvetteri**
- Lamina with >6 teeth/side **AND** +/- straight basal part, characteristics between *A. pseudoplatanus* and *A. heldreichii*. **A. xpseudoheldreichii**
- b Terminal lobe with numerous acute teeth/side **AND** curved basal part. **A. saccharinum** (Rubra)
- Terminal lobe variably narrow to wide at base and lamina margin with +/- blunt teeth, intermediary between the parents *A. rubrum* and *A. saccharinum*. **A. xfreemannii** (Rubra)
- 68 a Terminal lobe widening at its base **OR** with numerous, >5 teeth/side. 69
- b Terminal lobe narrowing at its base **AND** with few, ≤5 teeth/side. 73

- 69 a Terminal lobe broadly triangular, widest at base AND lobes with conspicuously long acuminate apex. **A. caesium** (Acer/Acer)
- Shoot initially slightly bloomed. Lamina 3-5-lobed. **A. caesium** subsp. **caesium**
 - Shoot prominently bluish-white bloomed (often persistent the 2nd year). Lamina (3-)-5-7-lobed. **A. caesium** subsp. **giraldii**
- b Terminal lobe ovate or elongate (if widest at base then apex not long acuminate). 70
- 70 a Terminal lobe mostly wider than long AND widest at base, sinus often wide. Lamina margin +/- shallowly (not sharply) dentate to almost entire. Lamina often bulged or with wrinkled surface, tending to crack when flattened. See also hybrids. **A. opalus** (Acer/Monspessulana)
- Lamina ≥ 12 cm wide, +/- thick and leathery. Lobes obtuse and rounded. **A. opalus** subsp. **obtusatum**
 - Lamina < 10 cm wide, thinner. Lobes more acute. **A. opalus** subsp. **opalus**
- Some related hybrids with often 3-lobed lamina, but shallowly 5-lobed lamina can be present.
- Lamina remarkably thick and strong. Characteristics between *A. monspessulanum* and *A. opalus*?
..... **A. xcoriaceum** (Acer/Monspessulana)
 - Lamina not so thick and strong, very similar hybrids, parents disputed.
 - *A. opalus* x *A. pseudoplatanus*? **A. xhybridum** (Acer/Monspessulana)
 - *A. monspessulanum* x *A. opalus* subsp. **obtusatum**? **A. xrotundilobum** (Acer/Monspessulana)
- b Terminal lobe longer than wide, sinus often narrow, OR teeth sharper. 71
- 71 a Bud brownish. Lamina remarkably large, 15-30 cm across. **A. velutinum** (Acer/Acer)
- Crown broad to broadly dome-shaped. Samara angle +/- 90°.
 - Lamina LS green to grey-green, +/- glabrous to densely pale to rusty pubescent. **A. velutinum** var. **velutinum**
 - Lamina LS blue-green, completely glabrous. **A. velutinum** f. **glabrescens**
 - Crown columnar. Lamina LS +/- blue-green, indumentum restricted to venation. Samara angle $> 90^\circ$.
..... **A. velutinum** var. **vanvolxemii**
- Plant with characteristics between the parents, hybrid between *A. pseudoplatanus* and *A. velutinum*.
- b Bud green or reddish. Lamina smaller. 72
- 72 a Terminal bud > 5 mm, green (lamina terminal lobe secondary veins longer than 1 cm ≥ 5 /side).
..... **A. pseudoplatanus** (Acer/Acer)
- b Terminal bud < 5 mm, green to reddish (lamina terminal lobe secondary veins longer than 1 cm < 5 /side). **A. rubrum** (Rubra)
- Terminal lobe variably narrow to wide at base and lamina margin with +/- blunt teeth, intermediary between the parents *A. rubrum* and *A. saccharinum*. **A. xfreemannii** (Rubra)
- 73 a Petiole \geq midvein length AND midvein length < 10 cm. **A. hyrcanum** (Acer/Monspessulana)
- Lamina 3-lobed (at most with very small basal lobes, samara ≤ 1 cm). **A. hyrcanum** subsp. **sphaerocarpum**
 - Lamina 5-lobed (samara 3-4 cm).
 - Margin with rounded teeth, or +/- crenate.
 - Lamina dull, thin. Terminal lobe with < 4 obtuse teeth. **A. hyrcanum** subsp. **keckianum**
 - Lamina smooth, thick. Terminal lobe with > 5 obtuse teeth. **A. hyrcanum** var. **granatense**
 - Margin with obtuse to +/- acute teeth.
 - Lamina LS blue-green. **A. hyrcanum** subsp. **intermedium**
 - Lamina LS green.
 - Lobes with acute apex and teeth. **A. hyrcanum** subsp. **tauricola**
 - Lobes with blunt apex and teeth. **A. hyrcanum** subsp. **hyrcanum**
- b Petiole $<$ midvein length, OR midvein length > 10 cm. **A. saccharum** (Acer/Saccharodendron)
- Extremely variable species, some infraspecific taxa:
- Lamina midvein length > 10 cm. Lobes clearly long acuminate, slender and acute.

- Lamina LS yellow-green to green, indumentum stiff. Petiole with stipules at base. *A. saccharum* subsp. *nigrum*
 - Lamina LS pale green to blue-green, indumentum different. Petiole without persistent stipules.
 - Lamina LS +/- glabrous to softly pubescent. Petiole glabrous and slender. *A. saccharum* subsp. *saccharum*
 - Lamina LS remarkably densely pubescent. Petiole densely pubescent and rather thick. *A. saccharum* subsp. *skutchii*
 - Lamina midvein length average <10 cm. Lobes obtuse to acute or +/- acuminate.
 - Lamina LS green to yellow-green. Lobes +/- acuminate. *A. saccharum* subsp. *leucoderme*
 - Lamina LS pale green to blue-green. Lobes obtuse to +/- acute.
 - Teeth obtuse. Terminal lobe hardly narrowing towards base. *A. saccharum* subsp. *floridanum*
 - Teeth rounded. Terminal lobe very narrow towards base. *A. saccharum* subsp. *grandidentatum*
- 74 a Lamina unlobed. Sectio **PALMATA/Penninervia**. 75
- b Lamina unlobed and 3-lobed **OR** 3-more-lobed. Sectio **PALMATA/Palmata + Sinensia, WARDIANA**. 78
- 75 a Lamina LS greyish-white, apex caudate with acumen 2-3,5 cm. *A. pinnatinervium* (?)
- b Lamina LS green, apex acuminate to caudate with acumen <2 cm. 76
- 76 a Lamina base rounded to +/- cordate. Basal secondary veins ending high in the lamina margin: between 1/3 and 1/2 midvein length. Lamina LS +/- paler green to blue-green. *A. cordatum* (Palmata/Penninervia)
- b Lamina base cuneate to rounded. Basal secondary veins ending low in the lamina margin: under 1/3 midvein length. Lamina LS and US +/- concolorous, green. 77
- 77 a Lamina usually >10 cm. US dull. LS with numerous traces of tertiary veins along midvein (vein pattern more reticulate). *A. laevigatum* (Palmata/Penninervia)
- b Lamina <10 cm. US shiny. LS without such traces of tertiary veins (vein pattern not reticulate). *A. fabri* (Palmata/Penninervia)
- 78 a Lamina 3-lobed, **OR** unlobed and 3-lobed **AND** terminal lobe **L/W**: >2/1, margin finely serrate. 79
- b Lamina 3-lobed with terminal lobe **L/W**: ≤2/1, margin coarsely serrate at first, often entire later. **OR** lamina 3-5- to more-lobed. 80
- 79 a Lobe apex clearly narrowly caudate >2 cm. Lamina LS rusty-pubescent on midvein and secondary veins. *A. wardii* (Wardiana)
- b Lobe apex caudate. Lamina LS glabrous. *A. tutcheri* (Palmata/Sinensia)
- 80 a Lamina 3-lobed (rarely unlobed, or 5-lobed when juvenile). 81
- b Lamina 3-more lobed, always 5-lobed lamina present. 83
- 81 a Lamina unlobed to 3-lobed, 10-25 cm. Terminal lobe caudate and lateral lobes acute to +/- caudate at apex. Juvenile lamina coarsely serrate, mature lamina entire. *A. calcaratum* (Palmata/Sinensia)
- b Lamina 3-lobed (juvenile 5-lobed), 10-15 cm. 82
- 82 a Lamina base cuneate to +/- rounded. *A. campbellii* subsp. *wilsonii* (Palmata/Sinensia)
- b Lamina base +/- rounded to subcordate. *A. tonkinense* (Palmata/Sinensia)

- 83 a Petiole **AND** annual shoot lasting and densely covered with addressed, short and stiff hairs. Lamina LS initially +/- greyish by similar kind of hairs. Lamina 5-7-lobed, resembling a dull-green coloured *A. palmatum*. *A. pauciflorum* (Palmata/Palmata)
- b Petiole **AND** shoot not so densely nor lasting pubescent. Lamina LS different **IF** lamina is 5-7-lobed, **OR** lamina 7- to more-lobed. 84
- 84 a Lamina 3-5-lobed, **OR** 5-lobed. 85
- b Lamina 5-7-lobed or more-lobed. 89
- 85 a Lamina 3-5-lobed, basal lobes very small, <1 cm. Lamina base cuneate to +/- rounded. *A. campbellii* subsp. *wilsonii* (Palmata/Sinensia)
- b Lamina 5-lobed, basal lobes >1 cm (sometimes 3- and/or 4-lobed lamina present). Lamina base truncate to cordate. 86
- 86 a Terminal lobe +/- 1/2 midvein length (Lamina +/- thick, often +/- leathery and smooth waxy to the touch, base cordate to deeply cordate). *A. campbellii* subsp. *sinense* (Palmata/Sinensia)
- b Terminal lobe 2/3 to 3/4 midvein length. 87
- 87 a Petiole stout +/- thick and short, $\leq 1/3$ midvein length. Lamina +/- leathery. *A. campbellii* subsp. *sinense*
- b Petiole slender, usually (not for all laminas) $\geq 1/2$ midvein length. Lamina not leathery. 88
- 88 a Midvein length usually <9 cm. *A. oliverianum* (Palmata/Sinensia)
- Basal vein axils lamina LS strongly pubescent. *A. oliverianum* subsp. *oliverianum*
- Basal vein axils lamina LS scarcely pubescent. *A. oliverianum* subsp. *formosanum*
- b Midvein length often >9 cm. *A. elegantulum* (Palmata/Sinensia)
- Closely related taxon, looks like a large-leaved *A. oliverianum* with basal lobes often >2 cm and petiole remarkably swollen at base. *A. schneiderianum*
- 89 a Lamina LS remarkably densely tufted “cobweb-like” pubescent **AND** 5-7-lobed. *A. erianthum* (Palmata/Sinensia)
- b Lamina LS different, **IF** tufted pubescent, then lamina always 7-lobed. 90
- 90 a Lamina 5-7(-9)-lobed (5-lobed lamina always present). 91
- b Lamina 7-9-11(-13)-lobed (no 5-lobed lamina present). 93
- 91 a Terminal lobe always <1/2 midvein length. Lamina margin finely sharply double-serrate, with teeth ≤ 1 mm. *A. duplicatoserratum* (Palmata/Palmata)
- b Terminal lobe 1/2-3/4 midvein length, at least so for the 5-lobed laminas. 92
- 92 a Lamina midvein 8-15 cm, LS pubescent in vein axils. Petiole remarkably swollen at base. *A. campbellii* (Palmata/Sinensia)
- b Lamina midvein <10 cm, LS sparsely pubescent or glabrous. Petiole not remarkably swollen at base (hybrids occur! between infraspecific and with related *A. shirasawanum*, *A. sieboldianum*, *A. pseudosieboldianum* etc.). *A. palmatum* (Palmata/Palmata)
- Lamina margin finely serrate. Terminal lobe 1/2-2/3 midvein length. *A. palmatum* subsp. *amoenum*
- Lamina margin coarsely serrate. Terminal lobe >2/3-3/4 midvein length. *A. palmatum* subsp. *palmatum*
- 93 a Terminal lobe <1/2 midvein length. 94
- b Terminal lobe 1/2-3/4 midvein length. 97

- 94 a Lobes 7-9. Shoot greenish or +/- reddish, not woody the 2nd and 3th year.
..... **A. circinatum** (Palmata/Palmata)
- b Lobes 9-11(-13). Shoot green, 2nd year shoot woody and grey to brown. 95
- 95 a Petiole clearly pubescent. Lobes 9 (sometimes 7-11). **A. sieboldianum** (Palmata/Palmata)
- b Petiole glabrous or almost so. Lobes 7-9 or more. 96
- 96 a Lobes 9-11. Lamina base inverted V-shaped, LS +/- dull (hybrids occur frequently, e.g. with *A. circinatum* and *A. pseudosieboldianum*). **A. japonicum** (Palmata/Palmata)
- b Lobes 9-13. Lamina base deeply cordate, LS shiny. **A. shirasawanum** (Palmata/Palmata)
- 97 a Lamina 7(-9)-lobed. 98
- b Lamina 9-11(-13)-lobed. 100
- 98 a Terminal lobe >3/4 midvein length. **A. palmatum** subsp. **matsumurae**
- b Terminal lobe <3/4 midvein length. 99
- 99 a Shoot and 2nd year shoot green, not woody. Lamina LS vein axils pubescent.
..... **A. campbellii** subsp. **flabellatum**
- b Shoot green, 2nd year shoot woody and (dark) greyish brown. Lamina LS with vein axils tufted pubescent with long hairs. **A. robustum** (Palmata/Palmata)
- 100 a Lamina base +/- truncate to subcordate. **A. tenuifolium** (Palmata/Palmata)
- b Lamina base deeply cordate. **A. pseudosieboldianum** (Palmata/Palmata)
- Lobes 9-11. **A. pseudosieboldianum** subsp. **pseudosieboldianum**
- Lobes 9-13. **A. pseudosieboldianum** subsp. **takesimense**

Taxa treated in this identification key.

- A. acuminatum* (Glabra/Arguta)
A. albopurpurascens (Pentaphylla/Trifida)
A. amplum (Platanoidea)
A. amplum subsp. **amplum**
A. amplum subsp. **bodinieri**
A. amplum subsp. **catalfifolium**
A. amplum subsp. **tientaiense**
A. argutum (Glabra/Arguta)
A. barbinerve (Glabra/Arguta)
A. xbornmuelleri (Acer Monspessulana)
A. buergerianum (Pentaphylla/Trifida)
A. buergerianum subsp. **buergerianum**
A. buergerianum subsp. **formosanum**
A. buergerianum subsp. **ningpoense**
A. caesium (Acer/Acer)
A. caesium subsp. **caesium**
A. caesium subsp. **giraldii**
A. calcaratum (Palmata/Sinensia)
A. campbellii (Palmata/Sinensia)
A. campbellii subsp. **campbellii**
A. campbellii subsp. **flabellatum**
A. campbellii subsp. **sinense**
A. campbellii subsp. **wilsonii**
A. campestre (Platanoidea)
A. capillipes (Macrantha)
A. cappadocicum (Platanoidea)
A. cappadocicum subsp. **cappadocicum**
A. cappadocicum subsp. **divergens**
A. cappadocicum subsp. **lobelii**
A. cappadocicum subsp. **sinicum**
A. carpinifolium (Indivisa)
A. caudatifolium (Macrantha)
A. caudatum (Parviflora/Caudata)
A. caudatum subsp. **caudatum**
A. caudatum subsp. **ukuruenduense**
A. circinatum (Palmata/Palmata)
A. cissifolium (Negundo/Cissifolia)
A. xconspicuum
A. coriaceifolium (Pentaphylla/Trifida)
A. xcoriaceum (Acer/Monspessulana)
A. crataegifolium (Macrantha)
A. davidii (Macrantha)
A. davidii subsp. **davidii**
A. davidii subsp. **grosseri**
A. diabolicum (Lithocarpa/Lithocarpa)
A. xdieckii
A. discolor (Pentaphylla/Trifida)
A. distylum (Parviflora/Distyla)
A. duplicatoserratum (Palmata/Palmata)
A. elegantulum (Palmata/Sinensia)
A. erianthum (Palmata/Sinensia)
A. fabri (Palmata/Penninervia)
A. xfreemannii (Rubra)
A. glabrum (Glabra/Glabra)
A. glabrum subsp. **douglasii**
A. glabrum subsp. **glabrum**
A. glabrum subsp. **neomexicanum**
A. griseum (Trifoliata/Grisea)
A. griseum × *A. maximowiczianum*
A. heldreichii (Acer/Acer)
A. heldreichii subsp. **heldreichii**
A. heldreichii subsp. **trautvetteri**
A. henryi (Negundo/Cissifolia)
A. xhillieri
A. xhybridum
A. hyrcanum (Acer/Monspessulana)
A. hyrcanum subsp. **hyrcanum**
A. hyrcanum subsp. **intermedium**
A. hyrcanum subsp. **keckianum**
A. hyrcanum subsp. **reginae-amaliae**
A. hyrcanum subsp. **sphaerocarpum**
A. hyrcanum subsp. **tauricola**
A. hyrcanum var. **granatense**
A. japonicum (Palmata/Palmata)
A. laevigatum (Palmata/Penninervia)
A. laurinum (Hyptiocarpa)
A. longipes (Platanoidea)
A. macrophyllum (Lithocarpa/Macrophylla)
A. mandshuricum (Trifoliata/Mandshurica)
A. maximowiczianum (Trifoliata/Grisea)
A. metcalfii (Macrantha)
A. micranthum (Macrantha)
A. miyabei (Platanoidea)
A. miyabei subsp. **miaotaiense**
A. miyabei subsp. **miyabei**
A. monspessulanum subsp. **ibericum**
A. monspessulanum subsp. **monspessulanum**
A. monspessulanum subsp. **turcomanicum**
A. monspessulanum (Acer/Monspessulana)
A. morifolium (Macrantha)
A. negundo (Negundo)
A. negundo subsp. **californicum**
A. negundo subsp. **interius**
A. negundo subsp. **mexicanum**
A. negundo subsp. **negundo**
A. nipponicum (Parviflora/Parviflora)
A. oblongum (Pentaphylla/Trifida)
A. obtusifolium (Acer/Monspessulana)
A. oliverianum (Palmata/Sinensia)
A. oliverianum subsp. **formosanum**
A. oliverianum subsp. **oliverianum**
A. opalus (Acer/Monspessulana)
A. opalus subsp. **obtusatum**
A. opalus subsp. **opalus**
A. palmatum (Palmata/Palmata)
A. palmatum subsp. **amoenum**
A. palmatum subsp. **matsumurae**
A. palmatum subsp. **palmatum**
A. pauciflorum (Palmata/Palmata)
A. paxii (Pentaphylla/Trifida)
A. pectinatum (Macrantha)
A. pectinatum subsp. **forrestii**
A. pectinatum subsp. **laxiflorum**
A. pectinatum subsp. **maximowiczii**
A. pectinatum subsp. **pectinatum**
A. pectinatum subsp. **taronense**
A. pennsylvanicum (Macrantha)
A. pentaphyllum (Pentaphylla)
A. pentapomicum (Pubescentia)
A. pictum (Platanoidea)
A. pictum subsp. **mono**
A. pictum subsp. **okamotoanum**
A. pictum subsp. **pictum**
A. pilosum (Pubescentia)
A. pinnatinervium
A. platanoides (Platanoidea)
A. platanoides × *A. truncatum*
A. platanoides subsp. **platanoides**
A. platanoides subsp. **turkestanicum**
A. xpseudoheldreichii
A. pseudoplatanus (Acer/Acer)
A. pseudosieboldianum (Palmata/Palmata)
A. pseudosieboldianum subsp. **pseudosieboldianum**
A. pseudosieboldianum subsp. **takesimense**
A. pycnanthum (Rubra)
A. robustum (Palmata/Palmata)
A. xrotundilobum (Acer/Monspessulana)
A. rubescens (Macrantha)
A. rubrum (Rubra)
A. rufinerve (Macrantha)
A. saccharinum (Rubra)
A. saccharum (Acer/Saccharodendron)
A. saccharum subsp. **floridanum**
A. saccharum subsp. **grandidentatum**
A. saccharum subsp. **leucoderme**
A. saccharum subsp. **nigrum**
A. saccharum subsp. **saccharum**
A. saccharum subsp. **skutchii**

A. schneiderianum (Palmata/Sinensia)
A. sempervirens (Acer/Monspessulana)
A. shirasawanum (Palmata/Palmata)
A. sieboldianum (Palmata/Palmata)
A. sikkimense (Macrantha)
A. sinopurpurascens (Lithocarpa/Lithocarpa)
A. spicatum (Parviflora/Caudata)
A. stachyophyllum (Glabra/Arguta)
A. stachyophyllum subsp. **betulifolium**
A. stachyophyllum subsp. **stachyophyllum**
A. sterculiaceum (Lithocarpa/Lithocarpa)
A. sterculiaceum subsp. **franchetii**
A. sterculiaceum subsp. **sterculiaceum**
A. sterculiaceum subsp. **thomsonii**
A. tataricum (Ginnala)
A. tataricum subsp. **aidzuense**
A. tataricum subsp. **ginnala**
A. tataricum subsp. **semenovii**
A. tataricum subsp. **tataricum**
A. tegmentosum (Macrantha)

A. tenellum (Platanoidea)
A. tenuifolium (Palmata/Palmata)
A. tonkinense (Palmata/Sinensia)
A. triflorum (Trifoliata/Grisea)
A. truncatum (Platanoidea)
A. tschonoskii (Macrantha)
A. tschonoskii subsp. **koreanum**
A. tschonoskii subsp. **tschonoskii**
A. tutcheri (Palmata/Sinensia)
A. velutinum (Acer/Acer)
A. velutinum f. **glabrescens**
A. velutinum var. **vanvolxemii**
A. velutinum var. **velutinum**
A. x verhaegheanum
A. wardii (Wardiana)
A. wuyuanense (Palmata/Sinensia)
A. xzoeschense

Taxa referred to synonymy in this identification key.

A. aidzuense = **A. tataricum** subsp. **aidzuense** (New Trees)
A. bodinieri = **A. amplum** subsp. **bodinieri** (Flora of China)
A. catalpifolium = **A. amplum** subsp. **catalpifolium** (Flora of China)
A. chapaense = **A. amplum** subsp. **bodinieri** (Flora of China)
A. craibianum = **A. calcaratum** (New Trees)
A. divergens = **A. cappadocicum** subsp. **divergens** (New Trees)
A. xdurettii = **A. xcoriaceum** (New Trees)
A. flabellatum = **A. campbellii** subsp. **flabellatum** (Flora of China)
A. forrestii = **A. pectinatum** subsp. **forrestii** (New Trees)
A. franchetii = **A. sterculiaceum** subsp. **franchetii** (New Trees)
A. ginnala = **A. tataricum** subsp. **ginnala** (New Trees)
A. giraldii = **A. caesium** subsp. **giraldii** (New Trees)
A. grandidentatum = **A. saccharum** subsp. **grandidentatum** (New Trees)
A. grosseri = **A. davidii** subsp. **grosseri** (New Trees)
A. grosseri var. **hersii** = **A. davidii** subsp. **grosseri** (New Trees)
A. komarovii = **A. tschonoskii** subsp. **koreanum** (Flora of China)
A. laxiflorum = **A. pectinatum** subsp. **laxiflorum** (New Trees)
A. leucoderme = **A. saccharum** subsp. **leucoderme** (New Trees)
A. maximowiczii = **A. pectinatum** subsp. **maximowiczii** (New Trees)
A. mono = **A. pictum** (New Trees)
A. nigrum = **A. saccharum** subsp. **nigrum** (New Trees)
A. nikoense = **A. maximowiczianum** (New Trees)
A. oliverianum = **A. schneiderianum** (Flora of China)
A. pubinerve = **A. wuyuanense** (Flora of China)
A. pubipalmatum = **A. pauciflorum** (New Trees)
A. serrulatum = **A. oliverianum** subsp. **formosanum** (Flora of China)
A. sinense = **A. campbellii** subsp. **sinense** (Flora of China)
A. taronense = **A. pectinatum** subsp. **taronense** (New Trees)
A. tientaiense = **A. amplum** subsp. **tientaiense** (Flora of China)
A. trautvetteri = **A. heldreichii** subsp. **trautvetteri** (New Trees)
A. tschonoskii var. **australe** = **A. tschonoskii** subsp. **koreanum** (Flora of China)
A. tschonoskii var. **rubripes** = **A. tschonoskii** subsp. **koreanum** (Flora of China)
A. ukurunduense = **A. caudatum** subsp. **ukurunduense** (New Trees)
A. wilsonii = **A. campbellii** subsp. **wilsonii** (New Trees)

Questionable taxa in this identification key.

Some taxa in cultivation may belong to other related ones, at least for a part of the discussed plants:

Acer amamiense has a similar leaf shape to ***Acer diabolicum*** and ***Acer sterculiaceum*** subsp. ***franchetii***, but the lactiferous character as in the former has not been fully verified yet as plants are too young.

Acer erythranthum, looks somewhat similar to ***Acer fabri*** but with longer and especially broader lamina, and to ***Acer laevigatum***, but with thinner textured, less reticulated lamina and long slender petiole.

Acer metcalfii, in some of the cultivated plants, looks similar to ***Acer davidii*** (especially ***Acer Lancaster 962***).

Acer pentapomicum's leaves look like oversized leaves of ***Acer monspessulanum***.

Acer sikkimense, in some of the cultivated plants, looks similar to ***Acer davidii***.

Acer tsinglingense has similar leaf shape and shoot with lactiferous sap to ***Acer sinopurpurascens***. No significant vegetative differences have been detected yet.

Acer wardii, or at least some of the plants under this name, may belong to ***Acer pectinatum*** fide P.C. de Jong.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	cm
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