



# *Hydrangea* L. sensu lato (**Hydrangeaceae**)

**including**

*Decumaria* L.

*Dichroa* Lour.

*Hydrangea* L.

*Pileostegia* Hook.f. & Thomson

*Platycrater* Siebold & Zucc.

*Schizophragma* Siebold & Zucc.

**VEGETATIVE KEY TO WOODY SPECIES IN CULTIVATION**

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## Vegetative key.

### Introduction:

This key is based on vegetative characteristics, and therefore also of use when flowers are absent.

- Use a hand lens to evaluate aerial rootlets, domatia and pubescence in general.
- Features like pubescence can decrease during autumn.
- Look at the entire plant. Young specimens and young or strong shoots give an atypical view.

**Taxa treated in this key: see page 7.**

**Taxa referred to synonymy: see page 7.**

**Questionable/frequently misapplied names: see page 7.**

### References:

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

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

<http://www.arboretumwespelaar.be/EN>

## KEY TO GROUPS

- 01 a Plant climbing or creeping with aerial rootlets. .... 02  
 b Shrub or small tree, aerial rootlets absent. .... 03
- 02 a Creeping shoot pubescent with stellate hairs. Lamina LS secondary vein axils often with pit-like domatia (10× LENS). .... **GROUP A1: see page 2**  
 b Creeping shoot glabrous, OR pubescent with single hairs. Lamina LS secondary vein axils without pit-like domatia (10× LENS). .... **GROUP A2: see page 3**
- 03 a Petiole length ranging from 1 to 2(-3) cm. .... **GROUP B1: see page 4**  
 b Petiole length ranging from 3 to 10(-more) cm. .... **GROUP B2: see page 4**

### GROUP A1: PLANT CLIMBING OR CREEPING WITH AERIAL ROOTLETS.

Creeping shoot pubescent with stellate hairs.  
 Lamina LS secondary vein axils often with pit-like domatia (10× LENS).

- 01 a Lamina margin entire, LS tertiary veins obscure. .... *Pileostegia viburnoides*  
 b Lamina margin +/- serrate or remotely serrulate, LS tertiary veins clearly visible. .... 02
- 02 a Creeping shoot pubescent with stalked dendroid hairs (10× LENS). .... 03  
 b Creeping shoot pubescent with sessile stellate hairs (10× LENS). .... 04
- 03 a Lamina L/W +/- 2/1. Creeping shoot pubescent with 2 mm long stalked dendroid hairs (10× LENS). .... *Hydrangea asterolasia*  
 b Lamina L/W 2/1-3/1. Creeping shoot pubescent with ≤1 mm long stalked dendroid hairs(10× LENS). .... *Hydrangea integrifolia*
- 04 a Lamina L/W predominantly >2/1. .... 05  
 b Lamina L/W at least in part <2/1. .... 07
- 05 a Non-creeping shoot with young leaves bronze to purplish. .... *Hydrangea glandulosa*  
 b Non-creeping shoot with young leaves green. .... 06
- 06 a Lamina with domatia clearly visible. .... *Hydrangea serratifolia*  
 b Lamina with domatia rather obscure. .... *Hydrangea seemannii*
- 07 a Young lamina LS greenish. .... *Hydrangea serratifolia*  
 b Young lamina LS reddish to coppery. .... 08
- 08 a Lamina margin remotely serrate with teeth often dot-like reduced.  
 .... *Hydrangea peruviana* × *serratifolia*  
 b Lamina margin serrate, with blunt to acute teeth. .... *Hydrangea peruviana* × *seemannii*

**GROUP A2: PLANT CLIMBING OR CREEPING WITH AERIAL ROOTLETS.**

**Creeping shoot glabrous, OR pubescent with single hairs.  
Lamina LS secondary vein axils without pit-like domatia (10× LENS).**

- 01 a Lamina margin regularly serrate-dentate from base to apex, with 30-50(-more) acute teeth/side. .... *Hydrangea anomala*  
    - Shoot +/- glabrous. Lamina ovate. .... *Hydrangea anomala* subsp. *anomala*  
    - Shoot +/- pubescent. Lamina ovate to rounded. .... *Hydrangea anomala* subsp. *petiolaris*
- b Lamina margin entire, OR remotely to coarsely-dentate with ≤25 teeth/side. .... 02
- 02 a Plant evergreen. Lamina 8-19 × 3-6 cm, entire and leathery, (narrowly) elliptic to oblanceolate and apex acute. .... *Pileostegia viburnoides*
- b Plant deciduous, OR/IF (semi-)evergreen, with lamina entire and leathery, then <12 × 3 cm, with apex predominantly obtuse. .... 03
- 03 a Petiole predominantly short: ≤3 cm AND ≤1/3(-1/2) lamina length. .... 04
- b Petiole long: 3-10 cm AND/OR ≥1/2 lamina length. .... 05
- 04 a Lamina elliptic to ovate L/W ≤2/1, apex predominantly acute. .... *Decumaria barbara*
- b Lamina narrowly elliptic to oblong L/W 2/1-3/1, apex predominantly obtuse.  
    ..... *Decumaria sinensis*
- 05 a Dentate leaf margin +/- regularly dentate from apex to base, at least in part of the leaves.  
    ..... *Schizophragma hydrangeoides*
- b Dentate leaf margin decreasingly dentate in apical half only, some dot-like reduced teeth towards base may occur. .... 06
- 06 a Lamina LS glabrous or pubescent only along veins and in vein axils (10× LENS).  
    ..... *Schizophragma integrifolium*
- b Lamina LS pubescent also on surface (10× LENS). .... 07
- 07 a Lamina LS pubescence dense on the surface and +/- erect on the secondary veins (10× LENS). .... *Schizophragma molle*
- b Lamina LS pubescence sparse to dense on the surface and +/- appressed on the secondary veins (10× LENS). .... *Schizophragma fauriei*

GROUP B1: SHRUB OR SMALL TREE, AERIAL ROOTLETS ABSENT.

Petiole length ranging from 1 to 2(-3) cm.

- 01 a Lamina LS with 10-12 secondary veins/side. .... *Dichroa hirsuta*  
b Lamina LS predominantly with  $\leq 10$  secondary veins/side. .... 02
- 02 a Lamina base attenuate, slightly decurrent to (sub-)winged. .... *Platycrater arguta*  
b Lamina base cuneate to (sub-)rounded. .... 03
- 03 a Lamina LS secondary veins and vein reticulation predominantly slender and not to slightly raised (10 $\times$  LENS). .... 04  
b Lamina LS secondary veins and vein reticulation at least in part thick and clearly raised (10 $\times$  LENS). .... 05
- 04 a Lamina 4-8  $\times$  1-2(-4) cm. Secondary veins 4-7/side. .... *Hydrangea scandens*  
b Lamina 8-14  $\times$  3-4 cm. Secondary veins 5-6/side. .... *Hydrangea lobbi*
- 05 a Leaf arrangement often ternate, at least on strong vegetative shoots (older branches often with leaf scars in threes). .... 06  
b Leaves always opposite. .... 07
- 06 a Current year shoot with lenticels pale and elliptic to roundish (10 $\times$  LENS).  
..... *Hydrangea paniculata*  
b Current year shoot with lenticels linear or obscure (10 $\times$  LENS). .... *Hydrangea sinensis*
- 07 a Lamina L/W  $< 2/1$ . .... *Hydrangea macrophylla*  
b Lamina L/W  $2/1-3/1$ . .... 08
- 08 a Lamina margin regularly dentate with 35-50 teeth/side (at least in part of the leaves). ... 09  
b Lamina margin +/- distantly dentate with  $< 30$  teeth/side. .... 10
- 09 a Lamina margin with tooth apices spreading (10 $\times$  LENS). .... *Hydrangea davidii*  
b Lamina margin with tooth apices forward to incurved (10 $\times$  LENS). .... *Hydrangea longifolia*
- 10 a Lamina ovate to obovate (showy flowers absent). .... *Hydrangea hirta*  
b Lamina ovate to elliptic or lanceolate (showy flowers present). .... 11
- 11 a Lamina predominantly ovate to elliptic. .... *Hydrangea serrata*  
b Lamina predominantly narrowly elliptic to lanceolate. .... *Hydrangea chinensis*

GROUP B2: SHRUB OR SMALL TREE, AERIAL ROOTLETS ABSENT.

Petiole length ranging from 3 to 10(-more) cm.

- 01 a Lamina lobed, OR margin with some large teeth clearly >1 cm. .... 02  
 b Lamina margin dentate, teeth predominantly <0,5 cm. .... 03
- 02 a Lamina lobed to pinnatifid; LS softly appressed pubescent with intertwined hairs.  
 ..... *Hydrangea quercifolia*  
 b Lamina shallowly lobed, or with some large teeth >1 cm; LS pubescent with (sub-)erect hairs. .... *Hydrangea sikokiana*
- 03 a Current year shoot with lenticels pale and elliptic to roundish (10× LENS). .... 04  
 b Current year shoot with lenticels dark, or linear, or obscure (10× LENS). .... 05
- 04 a Leaf arrangement often ternate, at least on strong vegetative shoots (older branches often with leaf scars in threes). .... *Hydrangea paniculata*  
 b Leaves always opposite. .... *Hydrangea heteromalla*
- 05 a Lamina LS secondary veins predominantly ≤6/side AND base rounded to cordate.  
 ..... *Hydrangea arborescens*  
 - Lamina LS glabrous, or pubescence restricted to secondary and tertiary veins, and vein axils.  
 ..... *Hydrangea arborescens* subsp. *arborescens*  
 - Lamina LS pubescent, also on the surface between the veins.  
 - Lamina LS greyish pubescent. .... *Hydrangea arborescens* subsp. *discolor*  
 - Lamina LS whitish pubescent. .... *Hydrangea arborescens* subsp. *radiata*  
 b Lamina LS secondary veins (6-)7-9(-more)/side, OR base cuneate to rounded. .... 06
- 06 a Shoot densely covered with conspicuous thick "moss-like" hairs. ... *Hydrangea sargentiana*  
 b Shoot +/- glabrous or pubescent with thin hairs. .... 07
- 07 a Lamina LS densely pubescent, hairs also +/- covering smallest veins (10× LENS). .... 08  
 b Lamina LS pubescence on smallest veins scattered or absent (10× LENS). .... 12
- 08 a Young shoot green. .... 09  
 b Young shoot at least in part greyish-pink, or reddish. .... 10
- 09 a Petiole predominantly 1-5 cm. .... *Hydrangea involucrata*  
 b Petiole 5-10(-more) cm. .... *Hydrangea longipes*  
 - Lamina lanceolate. .... *Hydrangea longipes* var. *lanceolata*  
 - Lamina ovate to roundish.  
 - Lamina LS pubescent with hairs appressed (10× LENS). .... *Hydrangea longipes* var. *longipes*  
 - Lamina LS pubescent, with hairs spreading (10× LENS). .... *Hydrangea longipes* var. *fulvescens*

- 10 a Current year shoot with lenticels clearly visible. Lamina broadly ovate. ... *Hydrangea robusta*  
 b Current year shoot with lenticels obscure. Lamina ovate to lanceolate. .... 11
- 11 a Lamina LS pubescence with hairs +/- lax and spreading ..... *Hydrangea aspera*  
 b Lamina LS pubescence with hairs stiff and appressed. .... *Hydrangea strigosa*
- 12 a Lamina secondary veins 9-12/side. .... 13  
 b Lamina secondary veins  $\leq 9$ /side. .... 14
- 13 a Secondary veins impressed, intercalary veins absent or slightly impressed.  
 ..... *Dichroa yunnanensis*  
 b Secondary veins and intercalary veins deeply impressed. .... *Dichroa versicolor*
- 14 a Leaf arrangement often ternate, at least on strong vegetative shoots (older branches  
 often with leaf scars in threes). .... *Hydrangea paniculata*  
 b Leaf arrangement always opposite. .... 15
- 15 a Petiole green. .... *Hydrangea macrophylla*  
 b Petiole often purplish. .... *Dichroa febrifuga*

## Taxa treated in this identification key.

*Decumaria barbara* → *Hydrangea barbara*  
*Decumaria sinensis* → *Hydrangea obtusifolia*

*Dichroa febrifuga* → *Hydrangea febrifuga*  
*Dichroa hirsuta* → *Hydrangea hirsuta*  
*Dichroa yunnanensis* → *Hydrangea yunnanensis*  
*Dichroa versicolor* → *Hydrangea versicolor*

*Hydrangea anomala*  
- subsp. *anomala*  
- subsp. *petiolaris*  
*Hydrangea arborescens*  
- subsp. *arborescens*  
- subsp. *cinerea*  
- subsp. *radiata*  
*Hydrangea aspera*  
*Hydrangea asterolasia*  
*Hydrangea chinensis*  
*Hydrangea davidii*  
*Hydrangea glandulosa*  
*Hydrangea heteromalla*  
*Hydrangea hirta*  
*Hydrangea integrifolia*  
*Hydrangea involucrata*  
*Hydrangea lobbii*  
*Hydrangea longifolia*

*Hydrangea longipes*  
- var. *fulvescens*  
- var. *lanceolata*  
- var. *longipes*  
*Hydrangea macrophylla*  
*Hydrangea paniculata*  
*Hydrangea quercifolia*  
*Hydrangea robusta*  
*Hydrangea sargentiana*  
*Hydrangea scandens*  
*Hydrangea seemannii*  
*Hydrangea serrata*  
*Hydrangea serratifolia*  
*Hydrangea sikokiana*  
*Hydrangea strigosa*  
*Hydrangea peruviana* × *seemannii*  
*Hydrangea peruviana* × *serratifolia*

*Pileostegia viburnoides* → *Hydrangea viburnoides*

*Platycrater arguta* → *Hydrangea platyarguta*

*Schizophragma fauriei* → *Hydrangea fauriei*  
*Schizophragma hydrangeoides* → *Hydrangea hydrangeoides*  
*Schizophragma integrifolium* → *Hydrangea ampla*  
*Schizophragma molle* → *Hydrangea schizomollis*

## Taxa referred to synonymy in this identification key.

*Hydrangea aspera* subsp. *strigosa* = *H. strigosa*  
*Hydrangea integerrima* = *H. serratifolia*

*Hydrangea liukuensis* = *H. scandens*  
*Hydrangea luteovenosa* = *H. scandens*

## Questionable/frequently misapplied names.

Plants in collections under the name *Hydrangea hirta* are often something else (most frequently *H. anomala*, *H. arborescens*, or *H. scandens*).

