



Ghent University Botanical Garden

*Nothofagus* Blume (Nothofagaceae)

VEGETATIVE KEY TO SPECIES IN CULTIVATION

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## Vegetative identification key.

### Introduction:

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

- Use a 10x hand lens to check leaf margin incisions and venation pattern in general.
- Look at the entire plant. Avoid young specimens, shade- and strong shoots as these give an atypical view.
- Beware of hybridisation, especially with plants raised from seed other than wild origin.

Taxa treated in this key: see page 4.

Names referred to synonymy: see page 4.

### References:

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

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**KEY TO GROUPS**

Lamina LS predominantly with 7-19(-23) secondary veins/side clearly visible to the naked eye.  
 ..... **Group 1**

Lamina LS predominantly with  $\leq 7$  secondary veins/side clearly visible to the naked eye.  
 ..... **Group 2: see page 3**

**GROUP 1**  
 Lamina LS predominantly with 7-19(-23) clearly visible secondary veins/side.

- 01 a Evergreen tree. Lamina US secondary veins +/- elevated. .... ***N. moorei***
- b Deciduous tree. Lamina US secondary veins clearly (deeply) impressed. .... **02**
- 02 a Lamina LS with 10-19(-23) straight secondary veins/side. .... **03**
- b Lamina LS with 7-10 straight to curved secondary veins/side. .... **05**
- 03 a Secondary veins 10-19(-23)/side, not clearly ending in teeth (10x LENS). .... ***N. alpina***
- b Secondary veins 10-14/side, clearly ending in sharp teeth (10x LENS). .... **04**
- 04 a Lamina predominantly ovate. Margin minutely regularly dentate with 0-1 tiny teeth between 2 secondary veins (10x LENS). .... ***N. alessandrii***
- b Lamina predominantly elliptic. Margin irregularly dentate to lobulate with 1-2 teeth between 2 secondary veins (10x LENS). .... ***N. x dodecaphleps***
- 05 a Lamina LS glaucous, secondary vein axils pubescent with long spreading hairs (10x LENS) **AND** base at least in part of the leaves cordate (evaluate several branches). .... **06**
- b Lamina LS green to glaucous green, vein axils glabrous or minutely pubescent (10x LENS) **AND** base cuneate, oblique or truncate (evaluate several branches). .... **07**
- 06 a Lamina margin at mid leaf predominantly with 2-4 teeth between 2 sinuses (10x LENS).  
 ..... ***N. glauca***
- b Lamina margin at mid leaf predominantly with 4-10 teeth between 2 sinuses (10x LENS).  
 ..... ***N. x leonii***
- 07 a Lamina base cuneate to oblique, primary teeth rather blunt. .... ***N. obliqua***
- b Lamina base truncate to oblique, primary teeth rather acute. .... ***N. x dodecaphleps***

**GROUP 2**  
**Lamina LS predominantly with  $\leq 7$  clearly visible secondary veins/side.**

- 01 a Lamina margin predominantly with <12 teeth/side. .... 02  
 b Lamina margin predominantly with 12-30 teeth/side. .... 06
- 02 a Lamina margin entire (10× LENS). .... *N. solanderi*  
 - Lamina apex rather acute. .... *N. solanderi* var. *cliffortioides*  
 - Lamina apex rather blunt. .... *N. solanderi* var. *solanderi*  
 b Lamina margin dentate or lobulate (10× LENS). .... 03
- 03 a Lamina LS tertiary vein pattern obscure or only visible in marginal part, even with 10× LENS. .... *N. cunninghamii*  
 b Lamina LS tertiary vein pattern reticulate and clearly visible with 10× LENS. .... 04
- 04 a Lamina length predominantly  $\leq 15$  mm, margin lobulate with 8-14 teeth/side. . *N. menziesii*  
 b Lamina length 15-50 mm, margin dentate with 4-9 teeth/side. .... 05
- 05 a Lamina LS 1st(-2nd) basal secondary vein axil(s) clearly pubescent with rusty hairs (10× LENS). .... *N. fusca*  
 b Lamina LS basal secondary vein axils glabrous (10× LENS). .... *N. truncata*
- 06 a Deciduous tree (or shrub). Lamina apex obtuse to rounded **AND** margin crenulate to lobulate with rounded teeth (10× LENS). .... 07  
 b Evergreen tree (rarely semi-evergreen = 09 b). Lamina apex acute or obtuse to acute **AND** margin denticulate to +/- lobulate with acute to obtuse teeth (10× LENS). .... 08
- 07 a Lamina LS minutely pubescent with short hairs (10× LENS), secondary veins 3-4/side. .... *N. antarctica*  
 b Lamina LS pubescent with long appressed hairs (10× LENS), secondary veins 5-6/side. .... *N. pumilio*
- 08 a Lamina LS secondary veins clearly visible to the naked eye, basal secondary veins with several outer forks clearly ending in teeth (10× LENS). .... 09  
 b Lamina LS secondary veins slightly visible or obscured to the naked eye, basal secondary veins with outer forks obscured or not ending in teeth (10× LENS). .... 10
- 09 a Lamina ovate to triangular, margin dentate (10× LENS). .... *N. nitida*  
 b Lamina ovate to elliptic, margin +/- lobulate to denticulate with acute teeth (10× LENS). .... *N. menziesii* × *N. obliqua*
- 10 a Lamina ovate, L/W always clearly <2/1. .... *N. betuloides*  
 b Lamina ovate oblong to lanceolate, L/W often >2/1: at least in part of the leaves at shoot ends. .... *N. dombei*

**Taxa treated in this identification key:**

*N. alessandrii*  
*N. alpina*  
*N. antarctica*  
*N. betuloides*  
*N. cunninghamii*  
*N. ×dodecaphleps (N.alpina × N.obliqua)*  
*N. dombeyi*  
*N. fusca*  
*N. glauca*  
*N. ×leonii (N.glauca × N.obliqua)*

*N. menziesii*  
*N. menziesii × N.obliqua*  
*N. moorei*  
*N. nitida*  
*N. obliqua*  
*N. pumilio*  
*N. solanderi*  
- var. *cliffortioides*  
- var. *solanderi*  
*N. truncata*

**Names referred to synonymy:**

*N. nervosa* = *N.alpina*  
*N. procera* = *N.alpina*

*N. fusca* var. *colensoi* = *N. truncata*

