



Ghent University Botanical Garden

*Podocarpus* L.Hér. ex Pers. (**Podocarpaceae**)

**VEGETATIVE KEY TO SPECIES IN CULTIVATION**

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## Vegetative identification key.

### Introduction:

All taxa discussed here grow outdoors in (climatically mainly the mildest) European collections, but some have to prove their hardiness still.

This key is based on vegetative characteristics only.

- Use a 10x hand lens to check midvein.
- Look at the entire plant. Young specimens, shade and strong shoots give an atypical view, so avoid them!
- Beware of hybridisation, especially with plants raised from seed other than wild origin.

### Abbreviations and glossary for this key:

**LS** → lower surface

**US** → upper surface

**naviculate** → having a concave shape ("boat-shaped")

**Taxa treated in this key:** → p4.

**Taxa referred to synonymy in this key:** → p4.

### References:

- JDL herbarium and [illustrations](#)
- living specimens, in various arboreta, botanic gardens and collections
- literature:

Grimshaw, J. & Christian, T. & all - *Podocarpus* in [Trees and Shrubs Online](#)

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**[Plantentuin Universiteit Gent](#)**

**[Arboretum Wespelaar](#)**

01 a	Leaves midvein length predominantly 1-5 cm. ....	02
b	Leaves midvein length 5-10(-more) cm. ....	11
02 a	Lamina US with midvein clearly/strongly raised at least for 3/4 <sup>th</sup> of its length (10× LENS). .....	03
b	Lamina US with midvein narrowly grooved to almost indistinct. ....	07
03 a	Lamina often naviculate (10× LENS), midvein length ≤1,5 cm. ....	<b>Podocarpus nivalis</b>
b	Lamina flat or almost so, midvein length 1,5-5 cm. ....	04
04 a	Lamina LS stomata bands rather narrow <u>AND</u> silvery-white. ....	<b>Podocarpus nubigenus</b>
b	Lamina LS stomata bands broad <u>AND/OR</u> (yellowish-)green or glaucous-green. ....	05
05 a	Lamina midvein length 1-4 cm <u>AND</u> petiole ≤2 mm. ....	<b>Podocarpus brassii</b>
b	Lamina midvein length, at least in part of the foliage >4 cm, <u>OR</u> petiole >2 mm. ....	06
06 a	Lamina apex acute to acuminate and pungent. ....	<b>Podocarpus pilgeri</b>
b	Lamina apex obtuse to acute (sometimes with a <u>short</u> apiculus). ....	<b>Podocarpus chingianus</b>
07 a	Lamina US midvein almost indistinct (10× LENS). ....	08
b	Lamina US midvein clearly narrowly grooved. ....	09
08 a	Leaves +/- perpendicular to shoot. ....	<b>Podocarpus acutifolius</b>
b	Leaves directed forward. ....	<b>Podocarpus lawrencei</b>
09 a	Leaves directed forward. ....	<b>Podocarpus lambertii</b>
b	Leaves +/- perpendicular to shoot. ....	10
10 a	Terminal bud always clearly wider than branchlet. Leaf mid-green. ....	<b>Podocarpus laetus</b>
b	Terminal bud as wide or less wide than branchlet. Leaf dark green. ....	<b>Podocarpus totara</b>
11 a	Lamina US with midvein in a narrow groove or only raised in basal half/third (10× LENS). .....	12
b	Lamina US with midvein clearly/strongly raised at least for 3/4 <sup>th</sup> of its length. ....	18
12 a	Lamina width predominantly 2-5 mm. ....	13
b	Lamina width 5-10(-20) mm. ....	14
13 a	Lamina apex gradually acuminate and pungent. ....	<b>Podocarpus parlatorei</b>
b	Lamina apex acute and pungent. ....	<b>Podocarpus lambertii</b>
14 a	Lamina US midvein in a narrow groove (10× LENS). ....	<b>Podocarpus oleifolius</b>
b	Lamina US +/- vague but often raised in basal half/third. ....	15
15 a	Leaves drooping to pendulous, <u>at least in part of the foliage</u> . ....	<b>Podocarpus henkelii</b>
b	Leaves spreading. ....	16

- 16 a Lamina width 5-7(-10) mm. .... **Podocarpus elongatus**
- b Larger lamina width 10-20 mm. .... 17
- 17 a Lamina elliptic **AND** abruptly narrowing to an apiculate apex. .... **Podocarpus latifolius**
- b Lamina elliptic to lanceolate **AND** gradually narrowing almost from the middle to an acute or acuminate apex. .... **Podocarpus milanjanus**
- 18 a Lamina width 2-5 mm. .... **Podocarpus drouynianus**
- b Lamina width >5 mm, at least in part of the foliage. .... 19
- 19 a Lamina apex acute to acuminate and pungent. **AND** lamina US midvein raised from base to apex (10× LENS). .... **Podocarpus pilgeri**
- b Lamina apex obtuse to acute (sometimes with a short apiculus). **AND** US midvein raised except in apical part, at least in part of the foliage. .... 20
- 20 a Lamina length 3-9 cm. .... 21
- b Lamina length 5-15(-more) cm. .... 23
- 21 a Lamina width ≤8 mm. .... **Podocarpus macrophyllus** var. **maki**
- b Lamina width, at least in part of the foliage 8-10(-more) mm. .... 22
- 22 a Lamina base rather abruptly narrowing in petiole. .... **Podocarpus costalis**
- b Lamina base rather gradually narrowing in petiole. .... **Podocarpus forrestii**
- 23 a Lamina rather narrow, larger leaf width 3-7 mm. .... **Podocarpus salignus**
- b Lamina rather wide, larger leaf width 7-10(-more) mm. .... 24
- 24 a Well-developed terminal bud length >8 mm. .... **Podocarpus matudae**
- b Terminal bud length <8 mm. .... 25
- 25 a Petiole ≤3 mm. .... **Podocarpus elatus**
- b Petiole 3-5 mm. .... 26
- 26 a Lamina margin laterally always straight. .... **Podocarpus macrophyllus**
- b Lamina margin at least in part of the foliage with undulations. .... **Podocarpus neriifolius**

Taxa treated in this key.

*Podocarpus acutifolius*  
*Podocarpus brassii*  
*Podocarpus chingianus*  
*Podocarpus costalis*  
*Podocarpus drouynianus*  
*Podocarpus elatus*  
*Podocarpus elongatus*  
*Podocarpus forrestii*  
*Podocarpus henkelii*  
*Podocarpus laetus*  
*Podocarpus lambertii*  
*Podocarpus latifolius*  
*Podocarpus lawrencei*

*Podocarpus macrophyllus*  
- var. *maki*  
*Podocarpus matudae*  
*Podocarpus milanjanus*  
*Podocarpus neriifolius*  
*Podocarpus nivalis*  
*Podocarpus nubigenus*  
*Podocarpus oleifolius*  
*Podocarpus parlatorei*  
*Podocarpus pilgeri*  
*Podocarpus salignus*  
*Podocarpus totara*

Taxa referred to synonymy in this key (fide Plants of the World Online: [POWO](#)).

*Podocarpus alpinus* → *Podocarpus lawrencei*  
*Podocarpus chingianus* ~ *Podocarpus macrophyllus* (TSO)  
*Podocarpus cunninghamii* → *Podocarpus laetus*  
*Podocarpus forrestii* ~ *Podocarpus macrophyllus* (TSO)  
*Podocarpus hallii* → *Podocarpus laetus*  
*Podocarpus wangii* → *Podocarpus pilgeri*

