



# Recircumscription of *Polyscias* (Araliaceae) to include six related genera, with a new infrageneric classification and a synopsis of species

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With 4 tables

## Abstract

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The genus *Polyscias*, described more than two centuries ago, has gone through several cycles of expansion and contraction in its circumscription, settling in the last forty years on a broad consensus that includes nearly all Paleotropical Araliaceae with pinnately compound leaves, an articulated pedicel and a gynoeceum with two to many carpels. Recent phylogenetic studies have shown that *Polyscias* is closely related to six other long-recognized genera (*Arthrophyllum*, *Cuphocarpus*, *Gastonia*, *Munroidendron*, *Reynoldsia* and *Tetraplasandra*). Because these other genera are all nested within a broad *Polyscias* sensu lato clade, substantial generic-level re-alignment is needed to avoid recognition of para- and polyphyletic groups. An earlier suggestion that each clade be recognized as a separate genus has proven impractical in light of an expanded phylogenetic analysis, which identified more than a dozen geographically coherent clades, some of which encompass significant morphological diversity but lack obvious defining synapomorphies. A more pragmatic approach is adopted here, in which all members of *Polyscias* sensu lato are treated as a single genus. Within this broadly defined genus, each clade is recognized as a subgenus, thereby retaining valuable information on evolutionary relationships while minimizing nomenclatural changes. A revised system of classification is proposed in which 159 currently recognized species are placed in *Polyscias* and assigned to 10 subgenera (seven species are left unassigned), necessitating 65 new combinations (nine at the rank of subgenus, 54 for species, and two for subspecies) and five new names.

**Keywords:** Araliaceae, *Polyscias*, infrageneric classification, subgenus, *Arthrophyllum*, *Cuphocarpus*, *Gastonia*, *Munroidendron*, *Reynoldsia*, *Tetraplasandra*.

## Introduction

The genus *Polyscias* was described by Forster & Forster (1775) based on a single collection they made in the South Pacific while serving on board Captain James Cook's second voyage. The Forsters distinguished their new genus from other Araliaceae rec-

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