



## A taxonomic revision of the genus *Cephalotaxus* (Taxaceae)

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### Abstract

A taxonomic revision of the genus *Cephalotaxus* is presented based on taxonomic literature, herbarium specimens and field work. We conclude the genus to contain seven species: *C. oliveri*, *C. fortunei*, *C. griffithii*, *C. alpina*, *C. harringtonii*, *C. nana* and *C. hainanensis*. We accept *C. hainanensis* and *C. griffithii* as separate species and not as synonyms of *C. mannii*, because type specimens of these taxa are not identical in the shape and size of the leaves. A key to all species, distribution maps and photographs of *Cephalotaxus* are also provided.

### Introduction

The ‘plum yews’, *Cephalotaxus* Sieb. & Zucc. ex Endlicher (1842: 27), form a small genus of conifers that occurs in eastern Asia, north of the Indo-Chinese peninsula (Fu 1984, Lang *et al.* 2011a). The taxonomic history of *Cephalotaxus* was described in detail in an earlier paper by Lang *et al.* (2011a). The genus was originally included in Taxaceae by Pilger (1903), but Neger (1907) separated it into its own the family, Cephalotaxaceae. *Cephalotaxus* was generally considered to be the only genus within the Cephalotaxaceae, although some authors (e.g., Pilger 1926, Phillips 1941, Page in Kubitzki 1990) also included *Amentotaxus* Pilger (1916a: 41) in this family. However, recently, in the latest classification system of gymnosperms, Christenhusz *et al.* (2011) placed *Cephalotaxus* back into the Taxaceae where it appears taxonomically between *Taxus* and *Amentotaxus* (Table 1). In this paper, we have follow the circumscription of Christenhusz *et al.* and place *Cephalotaxus* in the Taxaceae to prevent the unnecessary usage of two small segregate monogeneric families.

**TABLE 1.** A taxonomic status of *Cephalotaxus* in the gymnosperm classification system after Christenhusz *et al.* (2011).

12. Taxaceae (contains Cephalotaxaceae, Amentotaxaceae, Austrotaxaceae and Torreyaaceae)
12.1. <i>Austrotaxus</i> Compton (1922: 427)
12.2. <i>Pseudotaxus</i> W. C. Cheng (1948: 1)
12.3. <i>Taxus</i> L. (1753: 1040)
12.4. <i>Cephalotaxus</i> Sieb. & Zucc. ex Endl. (1842: 27)
12.5. <i>Amentotaxus</i> Pilger (1916a: 41)
12.6. <i>Torreya</i> Arnott (1838: 130)

Since Endlicher (1842) published the name *Cephalotaxus*, over 70 names have been published in the genus (Appendix 1). However, there is still no general agreement on taxonomy, nor is there any monograph on *Cephalotaxus* available describing how many species should be accepted. Some controversial problems still exist in almost all taxa with the exception of the well-defined *C. oliveri*—this confusion has occurred because the key taxonomic characteristics of most species, such as stomatal band whiteness, length and shape of needles, bark colour, etc., generally intergrade morphologically. It is thus difficult to know how to identify individual plants, with differences of opinion coming from decisions of taxonomists in different countries