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Contents

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Editors: Keith Rushforth (England), Jeff Bisbee (USA), Thierry Lamant (France), Joey Malone (USA), Patrick Perret (Switzerland).

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Cover photo: *Cupressus bhutanica*. Tree, cult., Italy. 2007.11.04. © CCP. This tree is some 160 years old and experienced recurring damage: lightning, strong winds and other hazards. It is the sister tree of the one on Isola Madre. Note the green foliage.

Cupressus bhutanica, a new Latin name for the Tsenden

The international committee for vascular plants recently decided that the name *Cupressus tortulosa* was an orthographic variant of *C. torulosa* (cf. ipni.org). As the name *C. corneyana* was attributed to the Tsenden wrongly (see Maerki 2025), it follows that the cypress material collected in eastern Bhutan by Griffith is in need of a valid binomial name. This is done here.

Cupressus bhutanica Maerki, *nomen novum*; basionym: *Cupressus pendula* Griffith, nom. illeg.
≡ *Cupressus pendula* Griff., *Itin. Notes* 131: #529. 1848 [non Thunb. 1784]; nom. illeg.
≡ *Cupressus tortulosa* Griff., *Not. Pl. Asiat.* 4: 26, 1854; *Itin. Notes* pp. 100, 131: #27 & 529. 1848; orth. var.
Lectotype: Bhutan: Dewangiri [now Deothang], Samdrup Jongkhar District. 1838-01-06, *Griffith 27*, **K000088093**.
Syntype: Griffith, *Ic. Pl. Asiat*. 4: **plate 372**.
Epitype: *Griffith 1001/1*, s.l., s.d., **P06489919** (cf. Maerki 2014d).

C. corneyana is excluded from the synonym list (cf. Maerki 2017, 2025).

After the study by Terry *et al.* (2018), the synonymy of the following species is also excluded (see Appendix A for the explanation):

Cupressus himalaica Silba in *Phytologia* 64: 80. 1987.
Holotype: *Grierson & Long 1079* (E). Bhutan: Norbding, below Pele La, 2250 m,

The famous specimen with glaucous-blue foliage (cultivar) on Isola Madre belongs to *C. bhutanica*.

This species was introduced in England at the end of the 19th century from the Rovelli Nurseries, and was first listed under the name *C. funebris* var. *glauca* at Kew (*Hand-list of coniferae* 1896: 37). Later this cultivar of *C. bhutanica* was confused with *C. cashmeriana* because of its foliage and the common name “Cipresso del Cachemire” attached to it. The study of the cones of both taxa shows that they are very different (Maerki 2014c). The wild form of *C. bhutanica* foliage is green.

Fig. 1: *C. bhutanica* seed cones, 1½ months after pollination. 2012-02-16. On a tree more than one century old, north Italy. **Figs 1 to 9:** © Francesco, showing the phenology of the seed cones.

Fig. 2 & 3: *C. bhutanica* seed cones, 4 and 5½ months after pollination. 2012-04-07 & 2012-05-17.

Fig. 4: *C. bhutanica* seed cones, 7½ months after pollination. 2012-07-23.

Fig. 5: *C. bhutanica* seed cones, 11 months after pollination. 2012-12-06..

Fig. 6: *C. bhutanica* seed cones, 19½ months after pollination. Cult. Italy. 2012-08-13.

Fig. 7: *C. bhutanica*, seed cones, 23 months after pollination. Cult., Italy. 2013-12-02.

Fig. 8: *C. bhutanica*, seed cones 25 months after pollination. Cult., Italy. 2013-02-06.
Notice the change of the cone surfaces from December to February.

Fig. 9: *C. bhutanica*, seed cones 26 months after pollination. Cult., Italy. 2013-02-27.
The cones are open.

Fig. 10: *C. bhutanica*, seed cones collected in September. Cult., Italy. 2013-02-27. © CCP.
Scale: ~1x.

Fig. 11: *C. bhutanica*, Isola Madre. Lower crown. 2004-09-09. **Figs 11-16:** © CCP.

Fig. 12: *C. bhutanica*, Isola Madre. Base of the trunk. Note the irrigation. 2004-09-09.

Fig. 13: *C.bhutanica*, Isola Madre, Italy. Apart from the famous cypress, two more *C. bhutanica* are present on Isola Madre. The tree on the left came from Hillier's nursery and has no label. The one on the right is wrongly labeled as *C. funebris*. 2004-09-09.

Fig. 14: Erroneous label on the second tallest *C. bhutanica*, Isola Madre, Italy. 2004-09-09.

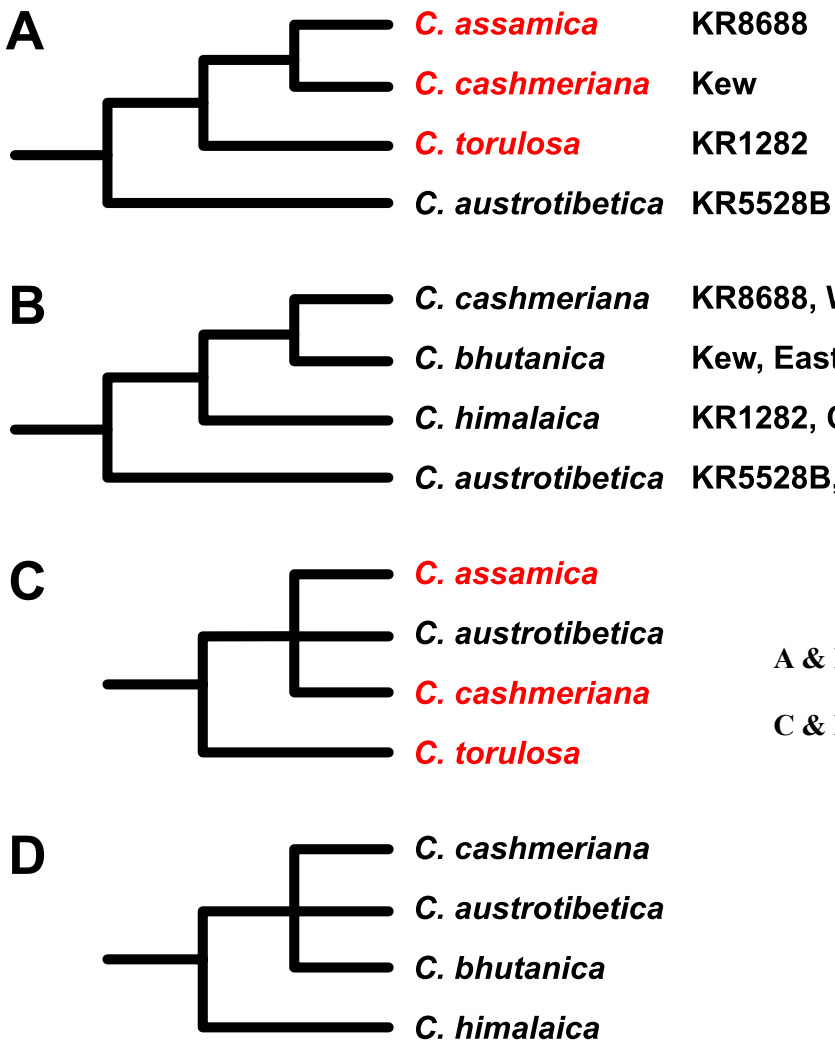
Fig. 15: *C. bhutanica*, Isola Madre, Italy. Interior of the famous tree, before it was uprooted. 2004-09-09.

Fig. 16: *C. bhutanica*, Isola Madre. Drooping glaucous foliage. 2004-09-09.

Fig. 17: Old photo (postcard) without a date of the famous *C. bhutanica* on Isola Madre, Italy.

Appendix A: the *Cupressus himalaica* case.

In the study by Terry *et al.*, the following results were published.



A & B: analysis of nuclear sequences.

C & D: analysis of chloroplast sequences.

Fig. 1: After Terry *et al.*, extract of fig. 2 (1A) and extract of fig. 3 (1C). B & D are the correct Latin names for the studied material. In red characters: the misidentified species. Cf. explanations of those errors below.

Table 1: Corrections of the species names according to their origin.

Species. Terry *et al., 2018*	Origin	Correct names
C. assamica	KR 8688, ex India, Arunachal Pradesh, W. Kameng.	*C. cashmeriana*
C. cashmeriana	Hillier, clone of neotype at Kew.	*C. bhutanica*
C. torulosa	KR 1282, Bhutan, **Lele** La.	*C. himalaica*
C. austrotibetica	KR 5528B, Tibet.	*C. austrotibetica*

In red: misidentifications

The *C. assamica* described by Silba is a mix of *C. cashmeriana* (holotype) and *C. lusitanica* (paratype). This was already corrected by Maerki with the help of K. Rushforth (2017b) by excluding the paratype. Thus *C. assamica* becomes a synonym of *C. cashmeriana*. Carrière (1867) gives South Tibet (aka Arunachal Pradesh, India) as the origin of *C. cashmeriana*.

The *C. cashmeriana* grown at Kew is a *C. bhutanica* introduced in England at the end of the 19th century from northern Italy where it was introduced in 1862. The neotype designed by Farjon as *cashmeriana* was superseded by Maerki with French material collected in the Jardin des Plantes in Paris where Carrière was working (cf. Maerki 2013 & 2014e and below p. 72 an isoneotype at herbarium G). The true *C. cashmeriana* from Arunachal Pradesh was introduced in England by K.Rushforth only at the end of the 20th century.

The *C. torulosa* is an incredible error: this species does not grow wild in Bhutan, but only more than 600 km to the west, in central Nepal. The name of the pass is **Pele La**, in central Bhutan. And the cypress

species described by Silba for this origin is *C. himalaica*. The holotype reads (Silba 1987: 80): "Type: Bhutan, Norbding, below Pele La, 2250 m, Grierson & Long 1079 (Holo-E).

Once again, foliage is misleading to identify a cypress species. The statistical study of the seed cones is essential to distinguish between the different Himalayan taxa (cf. Maerki 2014c). Studying only dry herbarium material with no colour nor scent does not provide meaningful information: the sample sizes are limited, and it is not possible for instance to collect information on the number of seeds by cone and by scale.

Both analyses (nuclear and chloroplast sequences) demonstrate the presence of two species in Bhutan, and a third one on the other side of the border of east Bhutan. The nuclear sequences express very well the geographical distances between the different distribution ranges.

Now the wrong identifications of the different species (especially *C. himalaica*) cast a doubt on those results. Some other results generated by mathematical models and computer could have been excluded because of those errors. The results will have to be confirmed by some other means: including morphology, anatomy, phenology, ecology, etc. The author is working on this.

Pending these further studies those results have to be accepted and the current conclusion is that there are two different species in Bhutan.

The record tree (see below) measured in Lhuntse in east Bhutan belongs to *C. bhutanica*. It is separated from *C. himalaica* in central Bhutan (straight line distance about 100 km) by deep valleys and mountain ranges exceeding 4000 m.

Thus *C. himalaica* has to be excluded as synonym of Griffith's cypress, now established with a new name as *C. bhutanica*, following the decision of the nomenclatural committee of the IAPT.

Bibliography

Carrière, E.-A. (1867). *Traité général des conifères*. Ed. 2. Vol. 1. Paris.

Grierson & Long, D.G. (1983). *Flora of Bhutan*. Vol. 1, part 1. RBG Edinburgh.

Griffith, W. (1848). *Itinerary Notes of Plants Collected in the Khasyah and Bootan Mountains, 1837-38, in Affghanisthan and Neighbouring Countries. 1839 to 1841*. Vol. II. Arranged by John McClelland. Calcutta.

Griffith, W. (1854a). *Notulaead Plantas Asiaticas*. Part IV. Dicotyledonous Plants. Calcutta.

Griffith, W. (1854b). *Icones Plantarum Asiaticarum*. Part IV, Dicotyledonous Plants. Calcutta

Long, D.G. (1980). Notes relating to the Flora of Bhutan: IV. The weeping cypress, Cupressus corneyana Carr. *Notes R.B.G. Edinb.* 38(2): 311-314.

Maerki, D. (2013). Which Latin name for the Tsenden? *Bull. Cupressus Conservation Proj.* 2: 39-71.

Maerki, D. (2014a). Comments on the taxonomic notes published in the IUCN Red List on Cupressus cashmeriana. *Bull. Cupressus Conservation Proj.* 3: 46-47.

Maerki, D. (2014b). Typification of Cupressus tortulosa Griff. *Bull. Cupressus Conservation Proj.* 3: 69-75.

Maerki, D. (2014c). Two distinct Himalayan cypress species: Cupressus tortulosa and Cupressus cashmeriana, with additional comparison to Cupressus torulosa. *Bull. Cupressus Conservation Proj.* 3: 99-115.

Maerki, D. (2014d). Note on the epitypification of Cupressus tortulosa. *Bull. Cupressus Conservation Proj.* 3: 115.

Maerki, D. (2014e). Cupressus cashmeriana Neotype. *Bull. Cupressus Conservation Proj.* 3: 116.

Maerki, D. (2017). Note on Cupressus assamica Silba. *Bull. Cupressus Conservation Proj.* 6: 74-76.

Maerki, D. (2020). Article reviews: on the taxonomy of Asian Cupressus species. *Bull. Cupressus Conservation Proj.* 9: 68-70.

Maerki, D. (2025). Cupressus corneyana rediscovered. *Bull. Cupressus Conservation Proj.* 14: 3-56.

Silba, J. (1987). Nomenclature of the weeping Himalayan cypress (Cupressus, Cupressaceae). *Phytologia* 64: 78-80.

Temphel, K.J. & P.T. Evans (1995). *The Tallest Tree in Bhutan*. Druk Forestry News of Department of Forests, Ministry of Agriculture, Bhutan.

Terry, R. G., A. E. Schwarzbach & J. A. Bartel (2018). A molecular phylogeny of the Old World cypresses (Cupressus: Cupressaceae): evidence from nuclear and chloroplast DNA sequences. *Pl. Syst. Evol*. 304: 1181-1197.

Back cover: *Cupressus cashmeriana*, isoneotype, *Y.Pauthier s.n.*, 2011-12-20. Herbarium G.

Report on the largest specimen of *Cupressus bhutanica*

So far there have been several hearsays reports about the tallest tree of Bhutan, but never supported by strong evidence. The following report was obtained through Dr. Ing. E. Oberholzer from Zürich, Switzerland.

Thanks to this paper, it is now possible to record the most precise measurement of the champion tree of the country and its locality as well as the date it was performed. A clinometer was used to insure the best possible accuracy at that time.

Here too the Latin binomial of *Cupressus corneyana* from Grierson & Long 1987 must be replaced by *C. bhutanica*.

Temphel, K.J. & P.T. Evans (1995). *The Tallest Tree in Bhutan*. Druk Forestry News of Department of Forests, Ministry of Agriculture, Bhutan.

The tallest tree in Bhutan

By K. J. Temphel and P. T. Evans, TFDP

Foresters doing inventory work are always impressed when they find an exceptionally tall or large tree. A tall majestic tree, which has been standing in the same place for hundreds of years, helps to humble us while gladdening our hearts that we are foresters and entrusted with caring for these trees and the environment which surrounds them. The history of centuries is written in the hearts of these old growth trees. Exceptionally tall trees should be identified and protected for the enjoyment of future generations. Staff from the Social Forestry and. Extension Cell of the Third Forestry Project along with Lhuntshi Dzongkhag forestry extension staff have recently measured a tree which may be the tallest in the country.

Cupressus corneyana - the National Tree of Bhutan is a sacred tree which has been historically cultivated around Dzongs and religious buildings. The timber is valued for dzong construction and both the wood and branches are burned as incense. This tree reportedly grows to a maximum height of 30 meters [1] or 50 meters [2].

There is a grove of 12 *Cupressus corneyana* trees located in Lhuntshi between the Lhuntshi Dzong and the government guest house. The trees are on a steep slope (70%) with a northwest aspect at an elevation of 1600 meters.

These are huge trees and curiosity got the better of us. We visited the grove of trees with a measuring tape and clinometer. Most of the trees are over 60 meters tall with one very impressive tree measuring 91 meters and a diameter at breast height of 1.8 meters [3]. It's a beautiful tree! It's not only the National Tree of Bhutan but quite possibly the Champion Tree of Bhutan. Has anyone found a taller tree?

1 Grierson, A.J.C. and Long, D.G., FLORA OF BHUTAN, Vol 1, Part 1, Royal Botanic Garden, Edinburgh, 1987.

2 National Environmental Commission, COMMON TREES IN THE TEMPERATE FOREST OF BHUTAN, Plant Identification Booklet Series, Thimphu, 1992.

3 Measured by K.J. Temphel, P.T. Evans, Gem Tshering, Jambay Gyeltshen, and Uygen Talim - September 7, 1995.

Taxonomy of the genus *Cupressus*

The following list contains the species currently acknowledged by the *Cupressus* Conservation Project. All taxa are sufficiently distinct to be recognised at the species rank. Thirty-five out of the 38 species were first described by their authors at this taxonomic rank. Reducing many of these taxa at the variety or subspecies level is not supported by our observations. Several articles sustain these choices, when new ones are in preparation. The conservation needs are better sustained by an accurate taxonomy taking into account not only molecular data, but also morphological, physiological, anatomical, phenological, ecological ones.

Volume and pages of the *Bull. Cupressus Conservation Proj.* are given for every species studied, with names updated to current taxonomic results.

1. *Cupressus sempervirens* Linnaeus (1753)	1: 16-18, 47; 4: 35; 7: 74-80; 8: 55-88
2. *Cupressus dupreziana* A.Camus (1926)	4: 35; 12: 3-56
3. *Cupressus atlantica* Gaussen (1950)	3: 78-96
4. *Cupressus torulosa* D.Don in Lambert (1824)	2: 26-31; 4: 35; 10: 3-35, 39-43; 13: 3-68
5. *Cupressus corneyana* Carrière (1855)	14: 3-56
6. *Cupressus himalaica* Silba (1987)	
7. *Cupressus bhutanica* Maerki (2025)	2: 39-71; 3: 69-75; 6: 43-48; 14: 55-60
8. *Cupressus cashmeriana* Carrière (1867)	2: 39-71; 3: 46-47; 6: 74-76
9. *Cupressus austrotibetica* Silba (1988)	10: 55-93, 100
10. *Cupressus rushsforthii* Maerki & J.Hoch (2021)	10: 55-89
11. *Cupressus gigantea* W.C.Cheng & L.K.Fu (1975)	2: 17-22
12. *Cupressus fallax* Franco (1969) emended (2020)	9: 3-12, 15-63, 66-67
13. *Cupressus chengiana* S.Y.Hu (1974)	9: 3-12
14. *Cupressus gansuensis* Maerki & J.Hoch (2020)	9: 3-12, 64-65
15. *Cupressus duclouxiana* Hickel in Camus (1914)	
16. *Cupressus funebris* Endlicher (1847)	6: 27-29
17. *Cupressus tonkinensis* Silba (1994)	2: 10-16
18. *Cupressus vietnamensis* (Farjon & Hiep) Silba (2005)	4: 88; 6: 79-100; 10: 94-97
19. *Cupressus nootkatensis* D.Don in Lambert (1824)	1: 19-21; 2: 3-9, 36; 4: 88; 6: 25-26
20. *Cupressus bakeri* Jepson (1909)	2: 32-33
21. *Cupressus macnabiana* A.Murray bis (1855)	
22. *Cupressus stephensonii* C.B.Wolf (1948)	3: 34-45; 7: 47-56, 70-73
23. *Cupressus revealiana* (Silba) Bisbee (2012)	1: 3-15; 7: 57-69
24. *Cupressus glabra* Sudworth (1910)	3: 51-68; 7: 82-91
25. *Cupressus arizonica* Greene (1882)	6: 62-70; 7: 3-44; 8: 89-96
26. *Cupressus nevadensis* Abrams (1919)	
27. *Cupressus montana* Wiggins (1933)	4: 133-136
28. *Cupressus goveniana* Gordon (1849)	1: 34-37
29. *Cupressus pygmaea* (Lemmon) Sargent (1901)	1: 27-37
30. *Cupressus abramsiana* C.B.Wolf (1948)	1: 60-63
31. *Cupressus butanoensis* (Silba) Malone & Bisbee (2012)	1: 55-63
32. *Cupressus sargentii* Jepson (1909)	
33. *Cupressus macrocarpa* Hartweg ex Gordon (1849)	
34. *Cupressus guadalupensis* S.Watson (1879)	3: 76-77
35. *Cupressus forbesii* Jepson (1922)	3: 34-45
36. *Cupressus lindleyi* Klotzsch ex Endlicher (1847)	
37. *Cupressus benthamii* Endlicher (1847)	
38. *Cupressus lusitanica* Miller (1768)	8: 3-48

Legend: p. 69.


ISONEOTYPE
de Cupressus cashmeriana Carrière
fide D. Mauchi
in Bulletin CCP, vol 2, n°1. Dec 2013
Y. Panthier
20 décembre 2011
Y. Panthier,
S.n. (20 décembre 2011)
TYPUS
EX HERBARIO MUSEI PARISIENSIS
Cupressus cashmeriana Carrière
Museum Paris, près de la graineterie
(arbre de 8m) rue Buffon 43.
Leg. Yves Panthier 20 décembre 2011
Vidit Mauchi 25/1/2020
Acquis intercalé dans l'herbier général
du Conservatoire botanique
GENÈVE, 2016 G
HERBARIUM GENAVENSE(G)
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