

Bambusa ventricosa vs *Bambusa tuldoides*

Chris Stapleton

Consideration of which botanical names are most appropriate for bamboos in horticultural use can be a contentious subject. Establishing the relationships between plants modified by cultivation and their natural cousins is a particularly difficult subject. However, the rationalisation of plant names is essential for the provision of accurate and consistent information on identification and cultivation. It will lead to more efficient horticulture in the long run. For those with a commercial interest, accurate names will streamline production and marketing, and increase customer satisfaction.

Floyd McClure (1938), while working in Guangzhou, China published the name *Bambusa ventricosa*, for small bamboos grown as *penjing* or *bonsai* plants, commonly known as Buddha-belly bamboo. At the time of describing these plants as a new species, he was unaware of how they would appear when grown in the ground. He considered the species to be a relative of *B. multiplex* and thought it would only reach 8ft in height. He questioned whether some 16ft tall plants could really be this species. As the dwarfed plant was so widely cultivated in China, while the full-stature plant was apparently completely unknown, it would seem likely that the latter was already being identified there as a different species, but the connection with *B. tuldoides* was not to be appreciated for some time.

Meanwhile McClure brought back some plants from China, to be the first plantings of *Bambusa ventricosa* in the US. In 1945 Robert Young, while describing several clumping bamboos under cultivation, reported *Bambusa ventricosa* as having produced large culms up to 55ft tall. Young published a photograph taken by McClure of a plant growing at Vero Beach, Florida. It had been collected by McClure himself in China, so there seems little doubt of its identity. *Bambusa tuldoides* was also illustrated, with culms also given as up to 55ft tall. Unfortunately *B. tuldoides* was not studied accurately by Young, and an effective comparison was not made. However, the details given for *Bambusa ventricosa* (Young 1945) are consistent with those known for *B. tuldoides*.

R. E. Holttum (1958), while working in Singapore Botanic Gardens, also noted that *B. ventricosa*, when grown in the ground, grew into full-size clumps with occasional, more or less dwarfed culms. He still placed the Buddha-belly bamboo in the species *B. ventricosa*, but it should be noted that *Bambusa tuldoides* was not growing in Singapore at that time, and Holttum would not have been familiar with that species.

Eventually *Bambusa ventricosa* flowered in the US in the early 1980s, and D. K. Edelman of the Smithsonian Institution, Washington collected flowers from the USDA Station in Mayagüez, Puerto Rico (Edelman et al. 1985). He also collected flowers elsewhere in Puerto Rico and from the Fairchild Tropical Garden in Florida. The large flowering clumps in Mayagüez were grown from McClure's original dwarfed Chinese plants, introduction # 77013 of 1932. Thomas Soderstrom, also of the Smithsonian Institution in Washington, identified all these as falling within the boundaries of the species *Bambusa tuldoides* (Edelman et al. 1985). In terms of the characters that unite all variants of *B. tuldoides*, the Buddha-belly bamboo *Bambusa ventricosa* did not show sufficient difference for the continued recognition of a separate species.

Meanwhile botanists at Hong Kong University (But, Chia, Fung, & Hu 1985) continued to use the name *B. ventricosa*, illustrating a full size, large-stature clump that clearly is substantially different to *B. tuldoides*. However, Wong (1995) from the Forest Research Institute in Malaysia questioned the identity of the bamboo illustrated as full-size *B. ventricosa*. Wong felt it differed in several ways from the field-grown plants of Buddha-belly bamboo with which he was familiar, and he decided to follow Soderstrom in including *Bambusa ventricosa* as a synonym of *B. tuldoides*. But & Chia later changed their minds and also decided to include *Bambusa ventricosa* as a synonym of *B. tuldoides* (But & Chia 1995), as did Chua et al. (1996) from Singapore. Wong was the first to point out that some clumps of *B. tuldoides* in China had themselves been found to produce culms with swollen

internodes, and that the cultivar name *B. tuldooides* 'Swollen Internode' had recently been given to such plants.

As this bamboo is a tropical plant which is not much grown in Europe, I have relied largely on the opinions of others. I have attempted to grow two Buddha-belly bamboos myself unsuccessfully under European conditions. From a branch cutting from Calcutta Botanic Garden, *B. vulgaris* 'Wamin' developed into a large plant in the ground in a palm house in Edinburgh Botanical Gardens with no evident culm swelling at all. From a commercial bonsai '*B. ventricosa*' grown indoors at home in England I quickly produced 2m tall shoots with long, straight internodes and culm sheaths that seemed to me to be consistent with identification as *B. tuldooides*. When in California in 1999 I asked some American bamboo growers if they knew how to keep the Buddha-belly bamboo plants small and ventricose, and their reply was that it was necessary to remove the sheaths daily, but that it was not a disaster if this was neglected, as the result 'would be a nice plant of *B. tuldooides*'.

Ohrnberger (1999) in his reference work on bamboo names in current use around the world included *Bambusa ventricosa* as a synonym of *B. tuldooides*, and this would now appear to reflect the consensus of opinion in the areas where such bamboos are grown, in China, S.E Asia, and the United States.

References

- But, P.P.-H., Chia, L.-C., Fung, H.-L., & Hu, S.-Y. (1985). *Hong Kong Bamboos*. Urban Council, Hong Kong.
- But, P.P.-H., & Chia, L.-C. (1995). *Bambusa tuldooides* Munro. In Dransfield S, Widjaja EA, (eds.), 1995. Plant Resources of South-east Asia No. 7. Bamboos: 72–74. Backhayes, Leiden.-
- Chua, K.S., Soong, B.C., & Tan, H.T.W. (1996). *The Bamboos of Singapore*. IPGRI, Singapore.
- Edelman, D.K., Soderstrom, T.R., & Deitzer, G.F. (1985). Bamboo introduction and research in Puerto Rico. *J. Amer. Bamboo Soc.* 6: 43–57.
- Holtum, R.E. (1958). The bamboos of the Malay Peninsula. *Gardens Bulletin Singapore* 16: 1–135.
- McClure, F.A. (1938). *Bambusa ventricosa*, a new species with a teratological bent. *Lingnan Science Journal* 17: 57–63.
- Ohrnberger, D. (1999). *The Bamboos of the World*. Elsevier
- Wong, K.M. (1995). The Bamboos of Peninsular Malaya. *Malayan Forest Records* No 41. Forest Research Institute, Malaysia. Kuala Lumpur.
- Young, R.A. (1946). Bamboos in American horticulture (IV). *The National Horticultural Magazine* 25: 257–283.