The Blue-stemmed Bamboo: *Himalayacalamus hookerianus*

Chris Stapleton [1]

Many Himalayan bamboos are attractive, but none can compare to the slightly tender blue bamboo from the Eastern Himalayas. Several 19th Century explorers remarked upon the beauty of the blue bamboo clumps, locally known as *parang*, which they encountered on the approaches to some of the mountain passes in Sikkim. Flowering specimens were found by Sir Joseph Hooker in 1848 and the plant was named *Arundinaria hookeriana* in his honour by Col. William Munro (1868). After many years of taxonomic and horticultural confusion this species has come to light in both Kew and Edinburgh, where it has started to flower prolifically and is producing both seed and abundant regeneration of seedlings around the flowering clumps.

This is an attractive bamboo wherever it grows, but the striking blue culms peculiar to this species are all the more apparent in the Himalayas, where older culms are regularly harvested for weaving into baskets and mats. This leaves the new culms with their thick glaucous wax coatings standing on their own, often tied up to give support to their soft new growth, resulting in blue pillars visible from afar. The attractive culms are complemented by delicate foliage, and smooth culm sheaths, each drawn out into a long point. These characters lead to a graceful and elegant plant, which forms compact clumps and is an ideal subject for the woodland garden in milder parts of the British Isles and New Zealand. In the Himalaya it grows up to about 2,500m, where absolute minimum temperatures would be around -10ºc, and it is likely that temperatures below -10ºc sustained for any length of time would damage first the foliage and eventually the culms and rhizomes.

The identification of this plant, as is the case with many bamboos, became somewhat confused, and unfortunately most plants cultivated in Europe under the name *Arundinaria hookeriana* have proved to be a different species from that described by Munro. By 1896, when J. S. Gamble, Director of the Imperial Forest College in Dehra Dun published his own monograph of the Bambuseae of British India, the species seems to have been expanded to include two further bamboos, neither with the blue culms of the true *A. hookeriana*. One of these is characterised by culms which bear yellow stripes on the culms, and this species has usurped the position of *A. hookeriana* in the horticultural world. It has recently been given a name as a cultivar of *Himalayacalamus falconeri*, cv.'Damarapa' Demoly (1991b), but as with all bamboos, we must await its flowers before its identity can be established conclusively. The other species has larger leaves, much thinner culm sheaths, and shorter greener culm internodes. It is presently being described in an enumeration of Himalayan bamboos by the author as the new species *Himalayacalamus brevinodus*.

To compond the confusion, this unfortunate species has been placed in several inappropriate genera since its description as a species of *Arundinaria* (see McClintock 1992 for notes on these genera), although it now appears to have come to rest in *Himalayacalamus* (Stapleton 1993). Other synonyms are *Chimonobambusa hookeriana*

Stapleton, C.M.A. (1994). The blue-stemmed bamboo: Himalayacalamus hookerianus. The New Plantsman 1(1): 1-9.

These early editions of the journal do not seem to be available anywhere at the moment in any form.

The article was illustrated by Mary Bates, who produced a beautiful painting of the plant in flower in Edinburgh.

Seedlings on the ground were prolific and within a few years they had reached the roof of the Temperate Palm House again, some 12m in height.

Unfortunately this species has not proven quite as hardy as at first hoped, but survives outside in sheltered garden of the SW.

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Nakai (1925), *Drepanostachyum hookerianum* (Munro) Keng fil. (1983), and *Sinarundinaria hookeriana* (Munro) Chao & Renvoize (1989).

Chimonobambusa was no more appropriate than *Arundinaria*, both genera having a form of rhizome which runs indefinitely under the ground leading to diffuse stands rather than the tight clumps seen in this species. *Drepanostachyum* has two or more florets in each spikelet while the genus *Himalayacalamus* has single florets, and consequently *Drepanostachyum* is also an inappropriate genus for this bamboo. The single florets in *Himalayacalamus hookerianus* develop into large solitary dark-coloured seed which are produced in great abundance. Bamboo seed are baked into cakes or brewed into a kind of beer in Sikkim according to Hooker (1854), and Munro (1868) ascribed the practice to this species. *Sinarundinaria* is also an inappropriate generic name for this bamboo. The flowering of the type species *S. nitida* Nakai has recently shown *Sinarundinaria* to be a synonym of *Fargesia,* a genus akin to *Thamnocalamus.* It has dense unilateral spathed inflorescences which are very different to the open unspathed inflorescences of this species.

It had been assumed that *Himalayacalamus hookerianus* was not in cultivation in the UK (Demoly 1991a), but three clumps have recently come into flower in the Royal Botanic Gardens at Edinburgh and at Kew, as if finally to demonstrate their identity. These plants are probably the descendants of material sent from the Lloyd Botanic Garden in Darjeeling by Sir George King, Superintendent of the Calcutta Botanic Garden, to Kew a year before they flowered there in 1897 (W.W. 1898). All plants at Kew apparently died or were removed, and new plants were raised from the resulting seed, while at Glasnevin some of the plants recovered after flowering (Bean 1903). The plants in Edinburgh had become mislabelled *Arundinaria falconeri* and *Chimonobambusa falcata.* The clump at Kew had acquired the name *Sinarundinaria falcata*. In the treatment of bamboos cultivated in the U.K. (Lawson 1968) the striped *H. falconeri* cultivar 'Damarapa' is clearly the bamboo detailed under the name *Arundinaria hookeriana.*

Other clumps of this species may have survived elsewhere in the U.K, Ireland, and Europe, and Mary Bates' illustrations should help to confirm their identity. All plants descended from the original introduction should be flowering within a few years of each other. If Sir George King's plants came from the same area as the flowering plants collected by Sir Joseph Hooker in 1848, then they would have a flowering cycle of about 50 years, and they should also have flowered around 1945, although there are no records of this.

As this species produces such abundant seed, there should be a good opportunity for those in suitably mild areas or with cool conservatories to acquire small plants from specialist nurseries from 1994. The specimen in the Palm House in Edinburgh eventually reached a height of 13m, but the clump outside only reached 4m. In milder areas which benefit from the Gulf Stream, a top height of 7 to 9m could reasonably be expected after ten years on a rich soil with good water availability. Bamboos do not grow at their best where soil is waterlogged, preferring a sloping site, and the Himalayan bamboos benefit from the protection offered by trees, as their delicate leaves will roll up in strong

sunlight, and salt spray will lead to loss of foliage. Plants raised from the present flowering will probably not flower again for either 50 or possibly 100 years. It is reassuring to known that this bamboo will seed prolifically when it does flower, and will re-establish itself from seedlings if the ground under the clump is kept weed-free. Seed of this species, unlike that of tropical and subtropical species, does have a degree of dormancy and takes from 1 to 8 months to germinate at 20-25ºc, although a cold pre-treatment might speed germination. Seed should probably be stored at -18ºc and around 8% water content to extend the life of the seed, but its viability is not known. Plants should be grown on between 15 and 25ºc, and the only pests are likely to be red spider mites, which can be discouraged by frequent misting.

Description

Clump-forming bamboo, culms c. 6-8 m tall, internodes up to 3cm in diameter, up to 30 cm long, uniformly blue-green and covered in dense glaucous wax in first year, becoming yellow-green or pink to purple-red after exposure to cold, basal internodes progressively increasing in length. Culm sheaths tough, smooth, glabrous or apically slightly scabrous, up to 35 cm long, attenuating concavely to a long narrow rolled apex with a narrow reflexed blade; ligule 4-6mm long, c. 3mm wide, glabrous on both sides or exterior only scabrous; auricles and oral setae absent. Leaf sheaths glabrous; ligule 2-4mm long, pubescent, rounded or acute; auricles and oral setae absent, blades up to 180 x 20mm, glabrous, with no tessellation. Branches up to 30 in mid-culm region, dissimilar in size, buds ovate. Inflorescence determinate, in open panicles of broad, usually single-flowered spikelets, fertile lemmas dark, narrowly elliptic.

Natural distribution:-
Nepal: Koshi & Mechi Zones.
India: Sikkim, West Bengal (Darjeeling Dist.).
Bhutan: Samchi, Chirang & Daga Dists.

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