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**ORNAMENTAL BAMBOOS
FOR URBAN PARKS**

Compiled by

**CRISTINA A. ROXAS, M. S.
FATIMA T. TANGAN, M. S.
FELIZARDO D. VIRTUCIO, Ph. D.**

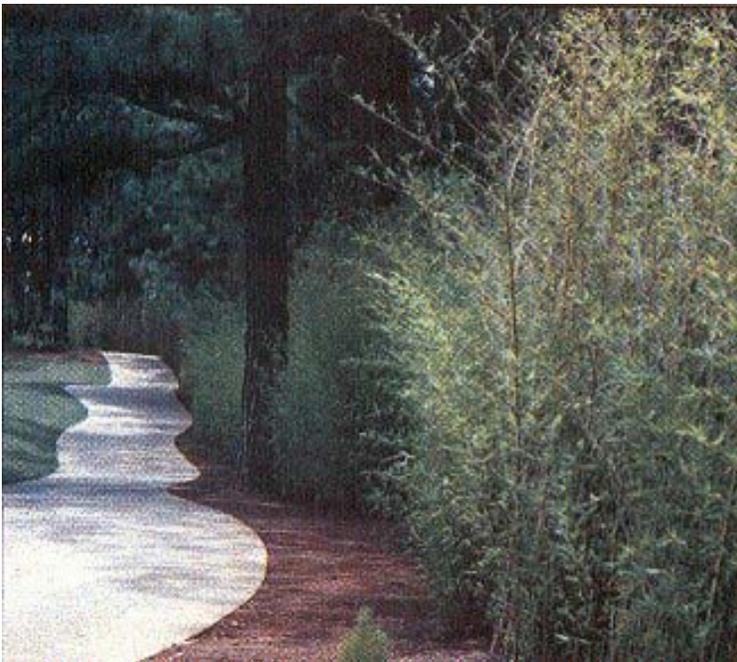
**Ecosystems Research and Development Bureau
Department of Environment and Natural Resources
College, Laguna 4031**

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ORNAMENTAL BAMBOOS FOR URBAN PARKS

Bamboos are long-lived woody, evergreen grasses. These belong to the family Gramineae which include the grasses planted in lawns and such cereals as rice and corn. There are 60 known bamboo species in the Philippines and their number is increasing because of the newly-introduced species by plant collectors and bamboo enthusiasts.

Bamboo are multipurpose plants which are used in one way or the other, at home, or in the workplace by more than half of the world's population. There are over a thousand different bamboos worldwide and anyone interested in bamboo will not only appreciate these as species for fashionable furniture and handicrafts, musical instruments, favorite dishes and as raw materials in architecture, but also consider them as best materials for the development of urban parks.



However, the aesthetic value of bamboo for urban parks has been barely tapped in the Philippines. Bamboo is a very interesting grass whose graceful culms, branches and leaves lend peace and serenity to any landscape. Thus, bamboo is becoming a favorite feature in urban parks as ground cover, live fence, hedges, or as a focal point in a landscape.

Planting bamboos in parks, or other forms of landscape needs a little thought and planning. The following points should be considered:

Selecting the species

Considering the wide variety of bamboos to choose from, urban park designers, or landscape architects should consider the size of the bamboo and the available space where the bamboo shall be planted. The shape of the urban park, the density and location of existing plants, the presence of structures should also be considered. Equally important are the decorative features of the bamboo such as color, shape and size of the culms and the leaves; and the height of the bamboos when mature. For instance, a buddha's belly bamboo (*Bambusa tuldooides*) should not be mixed with other plants, for its culms are already an attraction, or a giant bamboo (*Dendrocalamus asper*) is too large for a 10m x 10m area.

In choosing the species, the first thing to consider is the type of rhizome, whether the bamboo is a clumping (sympodial), or a running (monopodial) species. This determines the growth habit and general appearance of the whole bamboo clump when fully grown. Also, this will be the guide for the landscaper from the time of planting when holes are prepared up to the management or maintenance of the plants. Clump-forming bamboos multiply symmetrically outward in a circle and form a bunch of culms growing closely together while the rhizomes of monopodial bamboos are running in all directions and culms spreading far apart.

Monopodial or stoloniferous bamboos can be invasive if the planting area is not properly prepared. The clumpers, however, grow in confined clumps which expand in the course of natural seasonal (rainy season) growth in a slow and predictable fashion.

Bamboo species vary widely in culm diameter and height. It is always essential to consider the height and diameter of the bamboo, for this will affect the overall setup of the garden in the future. Bamboo culms from mature clumps (about 6-8 years old) attain their ultimate diameter by the time they emerge from the soil. It then takes them two to four months to reach their final height.

Choosing the site

An ideal garden should have a soil that is well-drained, light, friable and rich in nutrients and organic matter. All plants including bamboo need these basic requirements. Bamboos cannot grow well in a soil that is poorly drained or soggy; neither can they grow well in a waterlogged area. Generally, bamboos, like other variety of grasses, need sunshine to attain their optimum growth.

Designing with bamboo

Introducing bamboo in a landscape of an urban park is quite similar with incorporating a tree, or a shrub as a focal point. Tall bamboos just like any other tall trees are best planted where they can be seen at a distance – perhaps to obstruct some unwanted view but never to deprive anyone the enjoyment of a cherished vista. Likewise, they should not shade out equally important smaller plants nearby. The size of the bamboo especially the height when mature should complement the size of the area designated in an urban park. In short, do not plant a “forest-sized” bamboo in a “small-sized” landscape of an urban park.

A clumping bamboo of significant size is not impressive if planted on its own in total isolation from other plants. Further, avoid the straight-line pattern of planting except when the purpose is to set up a live fence or a natural barrier, created by regular or even spacing. Instead, group plants together for effect. Remember that an attractive bamboo which readily draws admiring attention loses its impact with its value disregarded when planted in a straight-line pattern.

Should you prefer a particular bamboo species because of the shape, color, or nodal pattern of the culms, then make sure that these desired features are not obstructed by

other plants. Rather, prune the bamboo branches up to the desired height so as to properly display the features of the culms.

Many urban park designers are intrigued by the unusual swollen or zigzag internode patterns of some bamboos while others are attracted to the striped green and yellow culms of the yellow bamboo (*Bambusa vulgaris var. striata*), or the “thumb size” culms of a black bamboo (*Phyllostachys nigra*). It is a matter of individual choice and such intelligent exercise of personal preference will give an urban park that special and unique quality of a recreational milieu.

Above all, remember that bamboo is just one element in any balanced landscape. Do not always use it as a dominant feature but to add color or visual texture with other plants. Never allow your bamboos to be lost in a static environment as if they were just a part of a photograph. Allow the leaves of your bamboo to sway with the breeze, for their movement will add new dimension of enjoyment to your quiet moments.

Planting ornamental bamboos

It has been frequently mentioned that the best time for planting bamboos is at the onset of the rainy season. Yet the best timing cannot be met sometimes, for other factors have to be considered. Planting bamboo in an urban park, or in a landscape can be also done even during, or after the rainy season provided that the landscape design and the designated area in the urban park are readied. A bamboo planted during the rainy season, however, will have a greater chance of becoming well-established.

The most appropriate practice in urban park landscaping with bamboo is to plant two- to three-year-old clumps (whether clumpers, or runners) grown in containers. With potted bamboos, if given the necessary care, the rate of survival tends to be higher (90% assurance), compared to a planting stock which is newly separated from the mother clump. Always remove the bamboos from the containers to let the roots breathe and grow into a robust plant.

Prepare the planting hole one day ahead and remove any stones, roots and weeds. Medium-sized bamboos need planting holes, 43-63 cm wide and 1m deep. Propagules of bamboos growing tall (20 m and above) are best planted in a hole about 1m x 1m x 1m.

Always soak the plant in a bucket of water for 15-20 min before removing it from the pot. For big containers, spraying of water for 5 min is necessary. Loosen the soil at the side of the pot with a spade and plant the bamboo with the root ball intact and in level with the surface of the soil. Firm the soil around the plant and water it for best possible results.

Planting monopodial or running bamboos needs more preparation because runners have to be confined with plastic materials such as fibro to prevent them from invading other parts of the landscape. The fibro should be placed at least three-fourths of a meter in the ground in an upright position.

Maintaining your bamboos

Maintenance of bamboos in an urban park or landscape varies according to the type and species of bamboo. Bamboos need to be watered during summer when leaves begin to wilt. Observations show that bamboos are affected by drought when curling leaves and drying at the tips of the foliage are visible.

All types of bamboo need fertilizer especially during the first year. The amount, however, depends on how rich the soil is and how it is prepared. Five-year-old Oldham bamboo (*Bambusa oldhamii*) at the Philippine Bambusetum in Baguio City, with a clump diameter of 2-3 m is given a yearly dose of 1 kg of NPK (14-14-14) divided into two equal parts. One part is applied in January and the other in June which is the onset of the rainy season.

Maintenance includes thinning, or removal of defective culms that may hamper the growth of other desirable poles.

Bamboos as hedges

Bamboos are used as hedges along pathways, or as partitions for the various portions of an urban park. For example, hedges are maintained by pruning the leaves which is usually done at the end of summer when the leaves tend to become brown. This technique rejuvenates the foliage and creates a uniform growing habit. Mature culms should be also removed.

Bamboo species commonly used for this purpose is *Bambusa multiplex*. Other species belonging to genus *Pleioblastus* can be also used.

Bamboos as live fence

Bamboos as “live fence” are usually planted to hide unsightly views and block out noise. They are extremely more pleasant to look at compared to barbed wire. Maintenance activities which include top pruning is done at least once a year and removal of unwanted, damaged and old culms is done every two or three years. *Thyrsostachys siamensis* and *Bambusa multiplex* are usually planted close together to serve as live fence. Other varieties and forms of *B. multiplex* are also used for this purpose.

Bamboos for windbreak

Tall bamboos are ideal for windbreak which may be considered in developing urban parks. These are planted in a single line to form a fence with a spacing of about 3m x 3m. Thorny bamboos can be also used for windbreak and for the protection of properties like orchards, fields, smallholding, or villages from animals and/or other intruders. *Bambusa blumeana* and *B. bambos* are usually planted for this purpose.

Bamboos in containers

Bamboos can be also grown in pots as houseplants, or as decoration outdoors. Medium-sized bamboos are the best planting materials. They are easier to move/transfer and maintain compared to tall bamboos. It is essential to put pebbles (2-3 cm) at the bottom of the pot to provide drainage, thereby avoiding waterlogging. Again, a fertile soil for potting bamboos will minimize maintenance, except, of course, watering and weeding. *Phyllostachys aurea*, *P. nigra* and *Bambusa mutiplex f. variegata* can be grown in choice pots as décor inside and/or outside the house.

Some pointers

- Generally, bamboos die when they flower, so plant as many suitable varieties (at least three) as possible to sustain and maintain your bamboos in the park.
- Expect a lot of bamboo leaves in the park every morning; just sweep them and ass them to your compost pit.
- “Snakes love to hide in bamboo groves” so they say; but keep groves properly managed to ward off snakes.
- Last but not the least, plant more bamboos in urban parks and discover their mysteries.

SOME SPECIES FOR URBAN PARKS

Common name:

Wamin Bamboo

Scientific name:

Bambusa vulgaris cv. Wamin

Brief description of the species

The Wamin Bamboo can be easily identified by its dwarf habit with short and swollen lower internodes 4-10 cm and the compact crown of leaves. The culms are green, reaching 2-5 m high, 1-3 cm in diameter, slightly thick-walled, particularly those of the lower portion. The culm sheaths are green when young, with dark brown to black hairs on the back.

Origin and distribution

This species is a native of southern China. It can be found growing under a wide range of moisture and soil condition.

**Propagation methods/techniques**

The easiest and most practical method of propagation is by culm cuttings, or branch cuttings. Planting materials should be taken from culms, one to two years old.

Uses

The Wamin Bamboo has been recently introduced in the Philippines as an ornamental. It is a preferred species for urban park landscaping because of its dwarf habit and its short and swollen internodes. It is also cultivated in pots.

Common name:

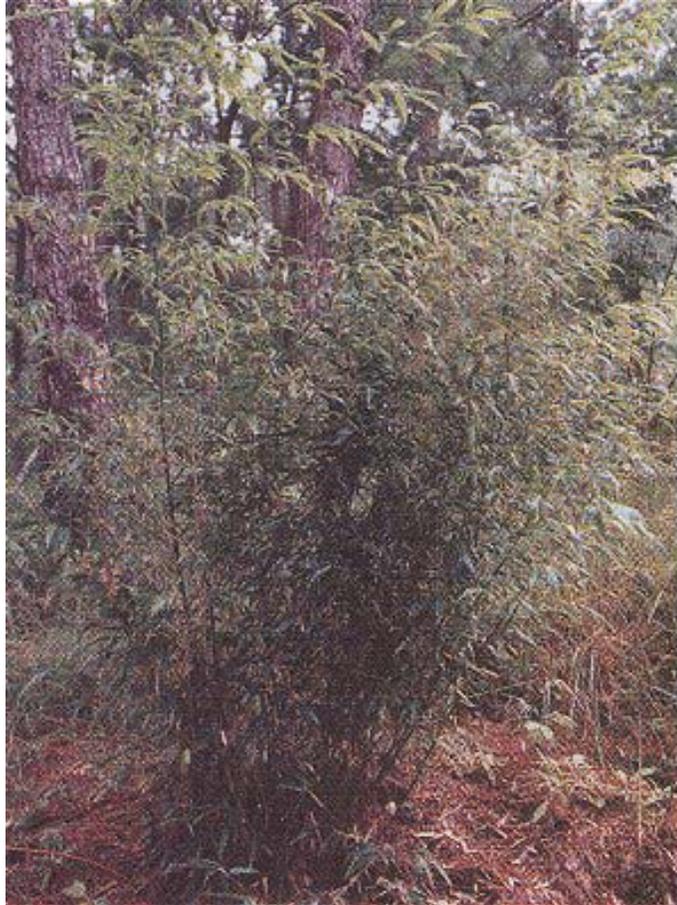
Fishpole Bamboo; Running Bamboo

Scientific name:

Phyllostachys aurea Carr. Ex A. & C. Riviere

Brief description of the species

P. aurea is open, sometimes tufted, monopodial bamboo. Its culms are erect, straight, 2-12 m tall, 2-9 cm in diameter and 4-8 mm thick, green when young, golden-yellow when older. The internodes are 10-20 cm long, with its lower internodes often irregularly shortened and swollen. The nodes are prominent with the lower ones close together and oblique but the upper ones, distant and horizontal. The branches are usually paired in the midculm, unequal in thickness.

**Origin and distribution**

P. aurea is believed to have originated from temperate and subtropical southern China and Japan. It has been introduced in most countries of the world and is often grown as an ornamental, even in temperate regions. In some countries, e.g., in Indonesia (Merapi Mountain in Central Java), it has naturalized.

Propagation methods/techniques

This species can be propagated by means of seeds and rhizome division. The most common propagation method is by rhizome division because seed is rarely available.

Uses

With its abnormal internodes (irregularly shortened and swollen) in the lower part of the culms, *P. aurea* is a popular urban park ornamental. It is also grown as hedges and as screen or greenery.

Common name:

Variegated bamboo and commonly known as Houshou-chiku in Japan.

Scientific name:

Bambusa multiplex f. variegata

Brief description of the species

Densely tufted, Houshou-chiku is a sympodial bamboo. The culms are slender, erect with arching tips, 2.5-7 m tall, 1-2.5 cm in diameter, hollow but with relatively thick walls. The internodes are green, 10-30 cm long, smooth and white waxy when young, nodes not swollen. This has white stripes on the leaves, although less on branches and culms.

**Origin and distribution**

This species is believed to have originated from Indochina and China. It is now cultivated throughout the tropics and subtropics including southeast Asia.

Propagation methods/techniques

Like a typical species belonging to genus *Bambusa*, this can be propagated by means of culm cuttings and clump division.

Uses

Houshou-chiku is excellent for hedges and windbreak if well-tended. It is grown as an ornamental in urban parks because of its culms, branches and leaves which have white stripes, especially those that come out in early summer. This species look most beautiful during summer.

It is usually cultivated individually in a large park.

Common name:

Tonkin Cane; Tea Stick Bamboo

Scientific name:

Arundinaria amabilis

Brief description of the species

The culms are 5-10 m high, 2-6 cm in diameter. The internodes, 25-30 cm long, are covered with brown bristly hairs when young and



become smooth with age. Branches in midculms appear in threes, the primary one being slightly thicker and appressed to the culms at the base. Culm sheaths are densely covered with brown bristly hairs on the outer surface, especially toward the base.

Origin and distribution

This species is a native of Guangdong Province in China.

Propagation methods/techniques

Arundinaria amabilis can be propagated by means of clump division and rhizome cuttings.

Uses

The species is an ornamental suitable for urban parks because the clump habit is open and it grows only to a maximum height of about 8 m and a diameter of 5 cm.

Common name:

Taiwan Bamboo

Scientific name:

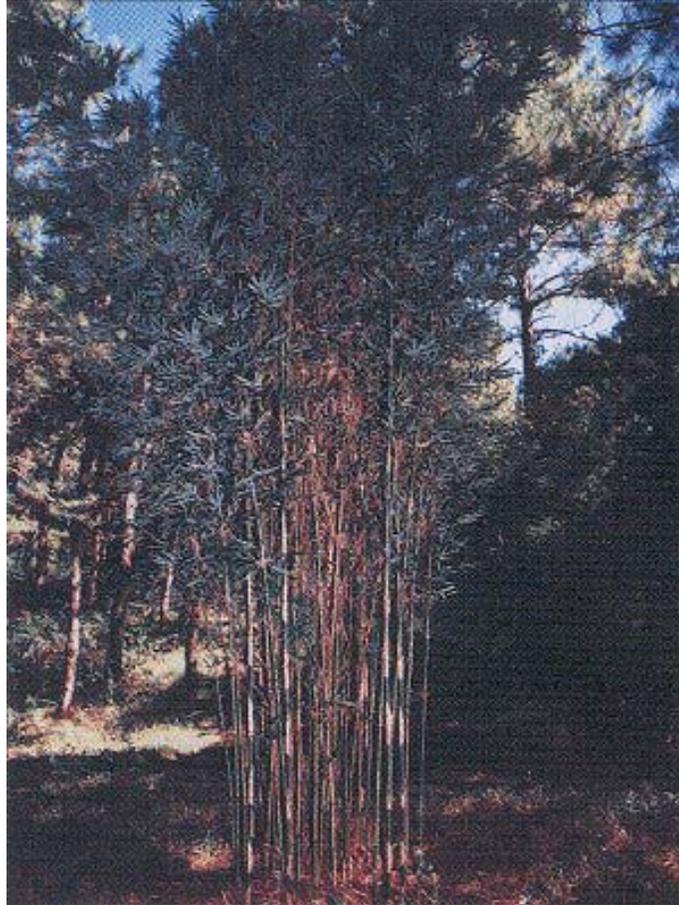
Bambusa dolichomerithalla

Brief description of the species

The culms are erect, smooth and green, 4-8 m tall, 2-3 cm in diameter. The internodes, 20-50 cm long, have prominent nodes, with many branches. The walls are 1-2 mm thick. The branches, more or less 25 per node, are all angled upward except for one dominant branch which reaches up to 80 cm long.

Origin and distribution

The species is native to China and endemic to Taiwan. It has been introduced recently in the Philippines.

**Propagation methods/techniques**

This bamboo can be propagated by means of clump division, rhizome cuttings, or offset cutting.

Uses

The species is purposely grown as an ornamental in a designed park because it only reaches a height of about 2-4 m and a diameter of 2-3 cm; it has many branches which are short and almost of the same sizes; and its culms are straight and shiny, dark green in color.

Common name:

Kanchiku

Scientific name:

*Chimonobambusa
marmorea*

**Brief description of
the species**

The culms grow to a height of 3-4 m but usually 2 m tall and about 1 cm in diameter. The culms, somewhat purplish in color, are quite thick walled, with prominent nodes, bearing persistent sheaths which are covered with white hairs at the base. Branch complement is typically three, one short and two long.

**Origin and distribution**

Kanchiku originated in southwest China. It is native to Japan. This has been introduced recently in the Philippines.

Propagation methods/techniques

C. marmorea can be propagated by means of seeds, or clump division.

Uses

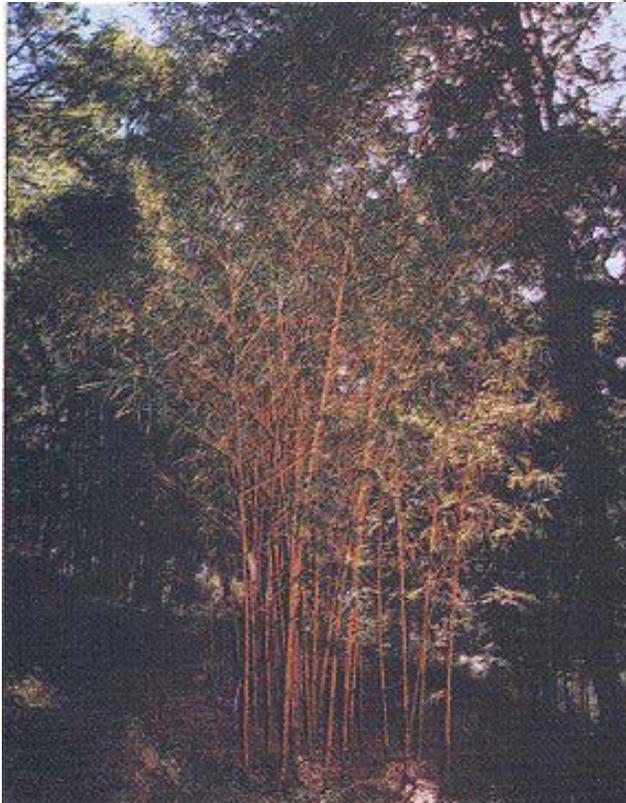
This species has internodes, purplish in color with big nodes which are lustrous. Such features make it an ideal park ornamental. For an urban park landscape, Kanchiku is planted in a line.

Common name:

Golden Bamboo; Yellow Bamboo;
Kauayan-dilaw

Scientific name:

Bambusa vulgaris var. *striata*

**Brief description of the species**

This beautiful variety of bamboo is easily identified by its golden-yellow culms which reach up to 9.3 m high and 5-10 cm in diameter. The internodes, 18-37 cm long, are smooth and yellow with various widths of green stripes. The walls are 0.6-1.8 cm thick. The culm sheaths, when young, are orange to light green with a few yellow green stripes.

Origin and distribution

The species originated in tropical Asia. This is the most widely cultivated bamboo throughout the tropics and subtropics, most commonly found everywhere in villages, especially along riverbanks. It is also grown as an ornamental in towns.

Propagation methods/techniques

The easiest and most practiced method of propagation is by culm cuttings, or branch cuttings.

Uses

This bamboo is a much-sought-after ornamental species for park landscaping because of its shiny and smooth golden-yellow culms marked with green, vertical stripes of irregular width.

Common name:

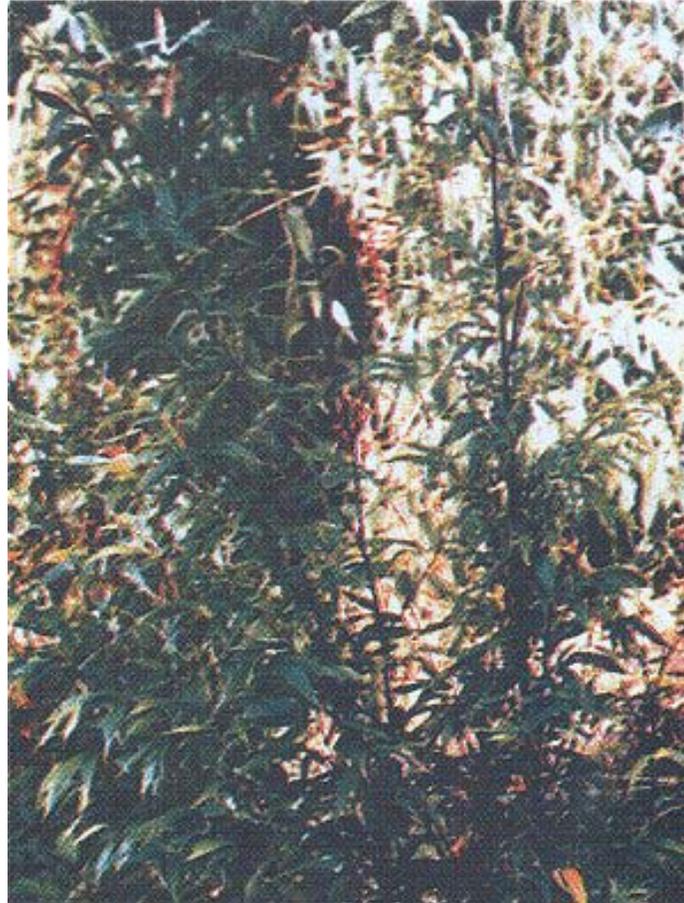
Black Bamboo

Scientific name:

Phyllostachys nigra

Brief description of the species

The culms are 3-6 m high, 1-2 cm in diameter. The internodes are cylindrical or grooved on the branch-bearing side, 15-25 cm long, green when young, sparsely to densely soft-hairy but become smooth with age and mottled with purple spots until the whole culms appear purplish black. Branches paired in midculm unequal in thickness. Culm sheaths are yellowish-green to light orange-yellow when fresh.

**Origin and distribution**

Black bamboo is native to China and Japan, but is now widely distributed in other countries. It has been introduced recently in the Philippines and is reported thriving well in Bukidnon.

Propagation methods/techniques

The best way to propagate black bamboo is by means of rhizome division, or rhizome cuttings.

Uses

This bamboo is planted mainly for ornamental purposes. Its color, striking stance and hardiness make it a fairly common species grown in urban parks. In Japan, black bamboo is one of the chief ornamentals which grace public parks. Black bamboo culms darken well in direct sunlight.

Common name:

Oroshima-chiku (Japan)

Scientific name:

Pleioblastus distichus

Brief description of the species

The culm is about 20-40 cm long, 1-2 mm in diameter. The culm sheath and the leaf sheaths are smooth. The leaves are arranged densely in parallel lines, in two dimensions lanceolate, 3-5 cm long.

Origin and distribution

This bamboo is believed to have originated in Japan.

**Propagation methods/techniques**

This species can be easily propagated by means of seeds, rhizome cuttings and clump division.

Uses

Oroshima-chiku can look good for a small cluster planting with other plants in a park. It can be used also as ground cover and can be made as potted plants.

Common name:

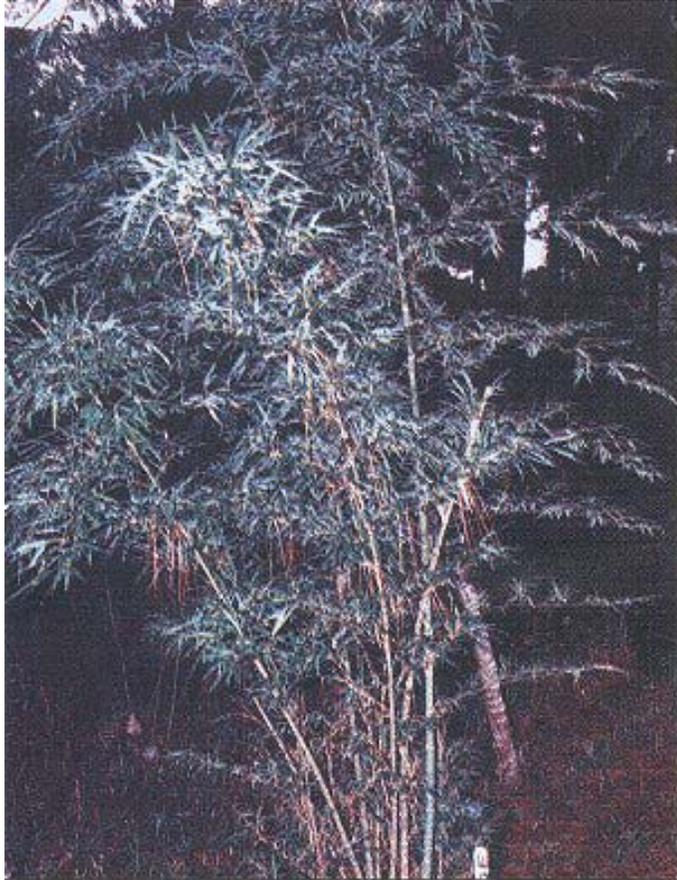
Edible Bamboo (Engl.); Moso (Japan)

Scientific name:

Phyllostachys pubescens

Brief description of the species

The culms are 5-15m tall and 2-4 cm in diameter, light green and silvery pubescent when young. They become shiny to pale green with age. The internodes are 5-30 cm long; the nodes are prominent with a ring, pale yellow-green/light bluish gray or bluish white, below the node. The walls are 0.5-1.0 cm thick. The culm sheaths are purplish brown and densely covered with dark brown hairs.

**Origin and distribution**

This bamboo is distributed in the warm-temperate parts of China. It has been introduced recently in the Philippines.

Propagation methods/techniques

This species is commonly propagated by means of rhizome division, or rhizome cuttings.

Uses

With its feathery green and yellow culms and spreading branches, *Phyllostachys pubescens* is grown as an ornamental in urban parks.

Common name:

Senchiku

Scientific name:

Fargesia nitida

Brief description of the species

The name "nitida" means "shining" or "lustrous" and is known as "fountain bamboo". The culms, light to deep purple, grow up to 7-8 m in height and 0.5-1.0 cm in diameter, without branches during the first year. The culm sheaths are pale purple, hairy and often as long as the internodes they cover, thin textured and persistent. The leaves are small and paper-thin and bristled at the edge – a brilliant green above and malt green below.

**Origin and distribution**

Senchiku is native to China. This grows up to 3,000 m on the northern slopes of the mountains. It is reported that in England, this species is hardier than many of the running temperate bamboos.

Propagation methods/techniques

This species is commonly propagated by means of clump division, or rhizome cuttings.

Uses

Fargesia nitida is strongly recommended as an excellent species for urban parks because of its hardiness and the striking beauty of its culms and foliage. That is, the color of the culms and the very unusual arrangement of the branches and leaves would make an urban park attractive. It has the tendency to stay in place where it is planted.

Common name:

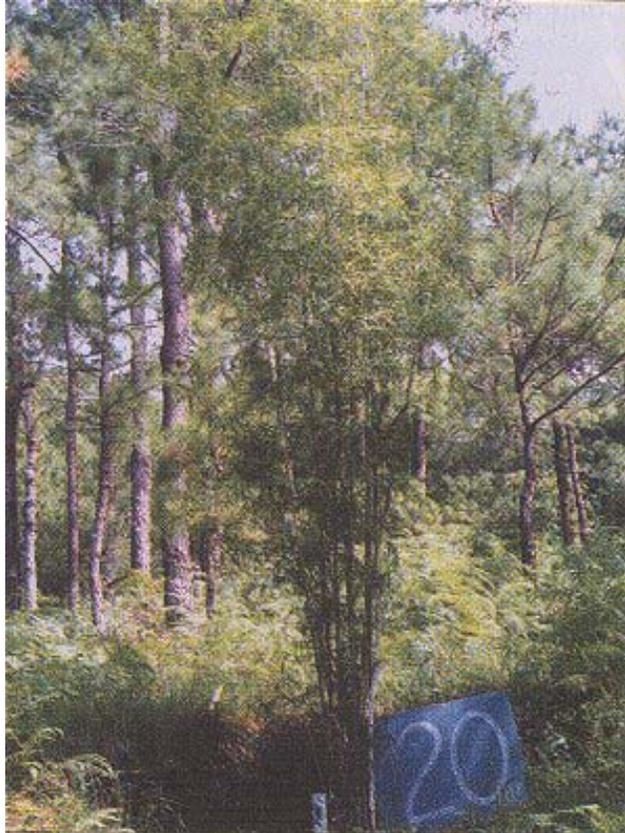
Thailand Bamboo

Scientific name:

Thyrsostachys siamensis

Brief description of the species

T. siamensis is a densely tufted, sympodial bamboo with erect culms having arching tips. Its culms are about 8-14 m tall, 2-7.5 cm in diameter. The walls are rather thick and solid at the base. The internodes are short with prominent nodes. Culm sheaths are pale green when young, pale brown with age. Its branches are slender, three to numerous at upper nodes.

**Origin and distribution**

This species is native to Myanmar and Thailand where it occurs widely and often abundantly in pure stands. It has been introduced throughout the tropics. It is also cultivated in Peninsular Malaysia.

Propagation methods/techniques

T. siamensis can be propagated by means of seeds, rhizome cuttings and tissue culture. With its common sporadic flowering, seeds are always available. Propagation by rhizome cuttings is generally most practical.

Uses

With its elegant habit (compact clumps of outcurving slender culms bearing many small leaves on slender branches), *T. siamensis* has become a popular ornamental. This is also planted in rows as fences and windbreak.

Common name:

Japanese Bamboo

Scientific name:

Shibataea kumasaca

Brief description of the species

S. kumasaca is a small bamboo with culms up to 1.5 m tall, brownish in color and 3-5 mm in diameter. Its internodes are smooth, about 2.6-3.2 cm in length. The branches are very short with 1-3 leaves in a branch.

**Origin and distribution**

Since this species originated in southern Japan, it is understandable why it is widely cultivated in Japan. In the southwestern region of Japan, it grows naturally. It is extensively planted everywhere in Taiwan. It has been introduced in tropical Asia, Europe and America.

Propagation methods/techniques

S. kumasaca can be propagated by rhizome cuttings.

Uses

This species is grown in parks mainly for ornamental purposes. It is planted in rows as live fences and flower garden edgings. It is used as ground cover, as hedges and for cluster cultivation.

Common name:

Buho

Scientific name:

Schizostachyum lumampao

Brief description of the species

Buho is a densely tufted, sympodial bamboo. Its culms are erect to ascending, 10-15 m tall, 4-8 cm in diameter and its walls, 4-10 mm thick. Its internodes, 25-80 cm long, are green and smooth. Its branches are several to numerous at the upper nodes. The culm sheaths are 24-26 cm long, up to 33 cm wide at the base, persistent, covered with yellowish, sharp hairs.

**Origin and distribution**

S. lumampao is native to the Philippines. It occurs naturally and extensively in the provinces of Abra, Pangasinan, La Union, Ilocos Norte, Ilocos Sur, Leyte and on the Islands of Panay and Basilan.

This species grows naturally in thickets and secondary forests at low and medium altitudes up to 1,500 m. Sometimes, it nearly occupies exclusively large areas (e.g., in Bataan, Zambales and Cagayan). It grows best on a well drained sandy loam or clay loam found on forested hills with 5.0-6.5pH, at an average temperature of 28°C to 32°C and an annual rainfall of 1,900 mm.

Propagation methods/techniques

S. lumampao can be propagated by means of seeds, offset method and culm cuttings.

Uses

This bamboo can be planted as a focal point in a park design.

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