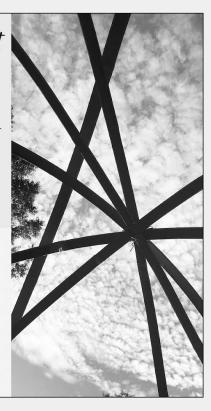


The Bamboo Art Contest 2022

Showcasing diversity through the medium of bamboo.

Deadline 8-31-2022

"In diversity there is beauty and there is strength" Maya Angelou



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Tarantula species found in bamboo stalks. 27

## **Bamboo Art Contest 2022!**

Submissions due by August 31st 2022 Winners announced at the ABS Conference in October 2022

More information at <u>bambooartcontest.com</u>



#### **ADULT CATEGORY**

Please submit a minimum of 3 digital photos along with a written or video description of the concept.

First Place: \$700

Second Place \$400

Third Place \$150

Fourth Place \$75

#### KIDS CATEGORY

Please submit a minimum of 3 digital photos with a brief description of the concept or a short video. K-12

> First Prize: \$50 Second Prize: \$25 Third Prize: \$15

#### On the Cover

Phyllostachys edulis 'Bicolor' yellow cane with green sulcus at Beauty And The Bamboo in Seattle. Timber moso bamboo up 32' feet in back yard at nursery.

Photo courtesy of Stan Andreasen.

## **BAMBOO**

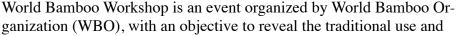
Magazine of the American Bamboo Society c. 2021 American Bamboo Society

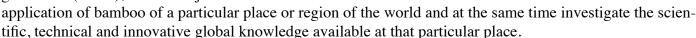
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# 4th World Bamboo Workshop in Vietnam 2022

## **Bamboo for Green Life and Sustainable Development**

The World Bamboo Workshop invites people from all over the world to move forward to a better future, using bamboo as an eco-friendly, highly renewable resource.





This time the Thanh Tam Bamboo Ecopark in Thanh Hoa Province, Vietnam will be holding this mega event from 16-20 September 2022.

This is the fourth workshop in the series after the first held at Mexico in 2017, second in Peru in 2018 and third in India 2019. The five days event at Thanh Tam EcoPark will have lectures, hands-on training, exhibitions, cultural shows, and more on bamboo. Participants from all over the world are expected to join the workshop.

## Why Attend World Bamboo Workshop?

The World Bamboo Workshop is a unique event, international in nature, with speakers and trainers from all over the world, specialized in bamboo in the sector of forestry, architecture construction, horticulture, nutrition, preservation, art, handicrafts and much more.

The goal of this workshop is for all the attendees to learn about bamboo and it benefits as an eco-friendly, highly renewable resource, and to enjoy the collaborative nature of working together.

## 200 People from all over the world

Green Goods Exhibition, hands-on demonstrations, music, cuisine, marketplace, and more.

Learn with craftsmen to do wonderful things with bamboo!

Seminar with 30 presentations of International Speakers + 10 National Speakers

Lam Kinh Festival

World Bamboo Day, bamboo planting ceremony!

Take one of the incredible tours to discover Thanh Hoa

## **Quality Time with Experts**

You will spend five days with experts from all over the world sharing their expertise with the participants through lectures and hands-on training.

The World Bamboo Workshop is an open event to all people around the world wanting to learn and work with bamboo!

Ticket sales began April 1. For more information: <a href="https://www.worldbambooworkshop.com/">https://www.worldbambooworkshop.com/</a> See you at #WBW2022 in Vietnam!

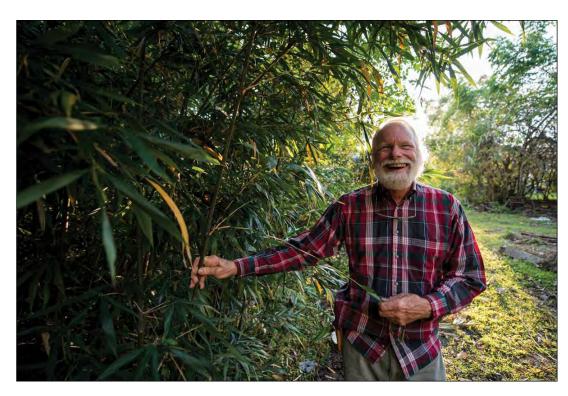
# **Raising Cane**

Growing and maintaining bamboo in South Louisiana

by Catherine Schoeffler Comeaux

Originally published in Country Roads Magazine (<a href="https://countryroadsmagazine.com/">https://countryroadsmagazine.com/</a>)

February 21, 2022 Photographs by Paul Kieu



W.P. "Judge" Edwards III, who is the President of the Louisiana Gulf Coast Chapter of the American Bamboo Society, at his home, which boasts the oldest grove of Moso timber bamboo in the state—as well as Edwards' own collection of various bamboo species.

Twelve years ago, we moved to a home that came with two well-established clumps of bamboo at the back fence. From my rudimentary knowledge of bamboo, I knew there were two kinds—clumping, which was "good," and running, which could break through your neighbors' fence and take over the yard in the middle of the night. I have since learned much more about growing bamboo in South Louisiana, encouraged along the way by local bamboo enthusiasts who have shown me how to maintain it, love it, and even eat it. Like most people, I knew bamboo had origins in faraway places like Asia and South America, but a Chitimacha basket weaver recently pointed out to me that the people of Louisiana have been nurturing and utilizing native bamboo for thousands of years in the low-lying lands of the Chitimacha people around Charenton. *Arundinaria gigantea*, or river cane, remains integral to the tribe's basket weaving traditions, as well as those of other native peoples in the region.

River cane is a running bamboo which grows in thickets referred to as canebrakes. Modern day agricultural and cattle grazing practices have reduced the canebrakes in South Louisiana drastically, but recent efforts by Chitimacha leaders have resulted in the re-establishment of the river cane on the Chitimacha Reservation—ensuring a supply of material for basketweaving, which remains an integral part of the Chitimacha culture. Bamboo, both native and imported varieties, is notoriously hardy in South Louisiana, but it can and does suffer when the land suffers. When W.P. "Judge" Edwards III, the President of the Louisiana Gulf Coast Chapter of the American Bamboo Society, bought his great uncle's Victorian-style home in Abbeville, it came with the oldest grove of Moso timber bamboo (*Phyllostachys edulis*) in the state, planted by Dr. Clarence "C.J."

Edwards in 1898. The grove has been struggling since Judge acquired it. He attributes its sparse culms to poor soil quality and compaction from when the grove was cleared with heavy equipment in the 1980s. He is currently employing a small excavator, bagged leaves, a flock of chickens, and a large goose to help improve the soil loosening it while adding in natural materials. Judge remembers playing in the historic Moso grove as a child, surrounded by the tall canes that once reached as high as seventy-five feet and as wide as seven inches in diameter. "I always loved bamboo. I wasn't a fanatic, but you get infected, you know," he told me as we toured his collection of fifteen different bamboo species spread out over about three acres. The honking goose greeted us near a workshop sided with split bamboo canes. I passed the beautiful, golden, greenstriped canes of Alphonse Karr (Bambusa multiplex), learned about the well-spaced nodules of Bambusa textilis—which makes great catfish poles—and listened to Judge's story of the temple bamboo (Semiarundinaria fastuosa) that got away.

"I always loved bamboo. I wasn't a fanatic, but you get infected, you know." — Judge Edwards

He pointed out a few barely visible pots hidden within the unwieldy patch of purple-caned temple bamboo, which his cousin had gifted him a few years ago. He shook his head, saying "It slept, crept, then leapt right out of the pots!" referring to an oft-noted pattern in bamboo's growth habits. The new species is beautiful, he said, so he is working on ways to contain it and control its spread. Reaching down to dig up a creeping rhizome in our pathway, he seemed just as impressed with the plant's powerful growth as frustrated by its invasiveness.

As I had learned from my experience with clumping bamboo, the groves do, in certain loca-



Bambusa textilis (photo by Don Shor)



tions, require containing. When I noticed mine too close to a fence, I spent an afternoon with a pickaxe and a

hand saw removing roots and dead canes. I've since learned there are better tools specifically designed for digging bamboo, like one called "The Slammer." Made up of a sharp metal blade welded to a hollow pipe, the tool is used by inserting a heavy metal rod into the tube, slamming it down and driving the blade into the ground and through the rhizome. Also, a twelve-volt hacksaw with a pruning blade makes pruning bamboo infinitely easier.

My sister has ringed her New Orleans home with twenty bamboo plants, including Gracilis (Bambusa textilis) and blue bamboo (Bambusa chungii). Both clumping varieties grow tall enough so they create a greenish blue wall higher than her home, which is built nine feet off the ground. She explained her maintenance process, "In the weeks when the bamboo is shooting, I set a Saturday morning reminder on my phone and walk the parameter knocking down the shoots with my foot. The maintenance is worth it in return for the beautiful, luxurious, living screen that surrounds my yard."

Another way to keep bamboo contained is by eating it, as I learned from Payao "Yao" Richard, the office manager at Live Oak Gardens wholesale nursery at Jefferson Island. As part of the family who owns and operates the nursery and the adjacent Rip Van Winkle Gardens, Yao lives at the edge of the botanical gardens with her husband Michael Richard, Jr. and their son. Over the years I have enjoyed visiting with Yao, learning about the bamboos propagated at the nursery, as well as the tropical bamboos featured in the photos tacked to the office walls, some of which were taken in Yao's birth country of Thailand. I recently asked her if she knew anything about harvesting and cooking bamboo shoots. In response, she invited me to supper.



"In the weeks when the bamboo is shooting, I set a Saturday morning reminder on my phone and walk the perimeter knocking down the shoots with my foot. The maintenance is worth it in return for the beautiful, luxurious, living screen that surrounds my yard." — the author's sister.

I found her at her kitchen sink with a mortar and pestle in arms—smashing a mixture of bamboo shoots, lime juice, onion tops, cilantro, mint, seasoned toasted rice, fish sauce, red pepper flakes, and a can of tuna. Harvesting and preparing bamboo shoots for eating is a labor of love, she explained, and you only do it twice a year: in the spring for runners like Robert Young (*Phyllostachys viridis*) and in summer for clumpers like Kanapah (*Bambusa textilis*), which produce her favorite shoots. All varieties of bamboo are edible, but timing and preparation are key for palatability. They are best harvested when they first emerge. She and Mike roast their shoots on a BBQ pit, then peel, slice, and boil them. After draining the bitter pot liquor, she boils the shoots again, then stores them in a freezer with water, shares them, or uses them in recipes. That night, Yao served the bamboo shoot salad with a light red wine and plates of boiled eggs, fresh cucumber, and chicken sausage made in nearby Delcambre. From first bite, I reveled in the layers of flavor—the smoky taste of the roasted bamboo, the salty umami of the fish sauce, and the brightness of the lime. As I finished my second (perhaps third) helping, Yao and Mike offered a tour of the gardens where the shoots were harvested.

Mike named the many bamboo varieties as Yao showed me the special place where she harvests the shoots. Serendipitously, we came across a late season shoot, which Mike cut down with his pocketknife. Back in the kitchen, Yao peeled it, then used what she referred to as a "two-blades knife" to slice the thin rings of sweetsmelling freshness. She likened the smell to that of freshly-shucked corn. I thought to myself, now this is the



way to contain bamboo.

Containing and maintaining bamboo is relatively straightforward if you are consistent, but it's a different situation when you find yourself inheriting a neglected mess, a "crisscrossed chaos of living and dead culms all tangled together," as Andy Ringle described the expansive Moso groves on the land he and his brother Ken Ringle inherited at Avery Island. I first met Andy at an event at the University of Louisiana. His eyes lit up when I told him about my bamboo, and he invited me to join a gang of "bambouistes," a term he coined to refer to bamboo enthusiasts, like the ones who annually descend upon Avery Island for the Louisiana Gulf Coast Chapter (LGCC) of the American Bamboo Society's (ABS) Avery Island Moso Bamboo Grove Grooming Event.

Edward Avery McIlhenny planted the Moso grove in 1910. After decades of neglect, Louisiana members of the ABS learned of the historic grove—which is considered one of the oldest, most well-established Moso bamboo groves in the United States—and requested permission to clean it up. Thus was born the annual grooming tradition, which has occurred now for over twenty years on the last weekend of February, just before the groves begin to push up new shoots.

The weekend begins on Friday night at the Ramada Conference Center in New Iberia, with all those gathered offering their individual testimonies as to how they came to live the life of a bambouiste. Saturday participants work alongside both experienced folks and newbies to clear out dead canes and fallen debris from within the groves. All are given the opportunity to take some of the cut canes home. It's been several years since I attended the event, but I still recall the peace I experienced in those rejuvenated groves at the end of the workday, listening to the culms clacking and the leaves rustling up high.

In a recent move, I had to say goodbye to my two clumps of bamboo, and I find myself lost without them,

especially in tomato growing season when I need new stakes. I'll be heading to the bamboo nurseries soon; there's a wide-open space in my yard where I think a clump of Kanapaha with its tasty shoots would look great.

Many nurseries carry limited varieties of bamboo, but I recommend visiting one of the bamboo specialty nurseries of South Louisiana to explore the beauty of the wider range they carry. The Ninth Ward Nursery in New Orleans (ninthwardnursery.com) can help you decide which bamboo will suit your space and needs. Bamboo Gardens of Louisiana (bamboogardensla.com) is a nursery located on twenty-four acres in Mount Hermon with sales handled online or by advance appointment.

For a real treat, plan a visit to the Bamboo Company Nursery (bamboocompanynursery.com) in Franklinton—the only bamboo arboretum in the state—where you can choose from over one hundred varieties, take a tour of the bamboo groves, or even join a class. They'll teach you how to make a bamboo walking stick, and in the spring they offer lessons in cooking bamboo shoots.



# How Cold Will They Go? Bamboos in the Northwoods

by Michael Heim

Palms and bamboos epitomize exotica, evoking warm tropical breezes in far off lands. While I have yet to find a palm that will survive outdoors for more than a single winter here in northern Wisconsin, there are several species of bamboo in four different genera that have truly been reliably hardy for me in the long-term. You would not expect to find them an hour's drive south of Lake Superior, yet here they are. To most people, this apparent feat of plant magic comes as a wonderful surprise. However, this achievement does come with one caveat...there are no bamboos that I am aware of that will remain evergreen here above the snowline, where temperatures can drop to -40 or colder. Thankfully, being located north of the climatic Tension Zone means that the ground in our Northwoods typically remains snow-covered all winter long, comparable to a down blanket. Even so, I have lost many kinds of bamboos that I had hoped would be hardy. The few tough survivors vary quite a bit from one another in characteristics such as leaf size and rate of growth.

Along with bitter winter cold, another lethal or disfiguring threat that plants face in our Wisconsin Northwoods are deer. Because of political pressure from certain groups, the population of deer is kept far above what the ecosystem can support. One by one, native plant species are being eliminated. Ornamental, commercial, and scientific plantings naturally also suffer. However, regarding bamboo, it seems that deer are not especially fond of this particular Asian food, altho they will browse some kinds more than others. Bamboo foliage is rich in phytoliths, microscopic silica (glass) grains within cells which act as an abrasive feeding deterrent. Because of this, low-growing bamboo species appear to have value in protecting native wildflowers in their midst from the depredations of deer. My study of this interesting topic is ongoing. In the coming year I will conduct a planting experiment to see whether plants favored as winter deer browse are afforded greater protection from their depredations within the dwarf bamboo Sasa hayatae.

Beavers are another matter. They have not eaten my bamboos, but their flooding will drown them in short order, much faster than when compared to most other plants. Sadly, my beautiful robust Sasa senanensis was killed when a beaver family built a dam on our creek. Soon after it was flooded, I put on waders and tried to rescue it, but it was too late. Nearby wildflowers and seedlings of tuliptree and magnolia which I also moved were fine.

Do bamboos hinder or enhance biodiversity? At one point I was debating whether to eradicate my most rambunctious species, Sasa hayatae, while I still could. What I decided to do was to observe it as objectively as possible before jumping to a conclusion. I went down to our creek bottom woods where it is growing and compared common native forbs (wildflowers and ferns) such as bunchberry (Cornus canadensis) and wintergreen (Gaultheria procumbens) outside and within the two long-established bamboo genets (the genetic individuals, i.e. clones). There was very little, if any, difference. The dwarf bamboo's visual impact had therefore given a misleading impression. It was merely an addition to our forest vegetation, mingling with it. I gladly left this gorgeous bamboo to merrily ramble along. A disclaimer: This may not apply to all species, soils, sites, and climates.

Due to their life cycles, which would make migration difficult, it would seem that wild populations of bamboo must thrive in environments that are relatively stable in geologic time. Did bamboo grow in what is now the northern United States before the last Ice Age? Even tho it is possible and perhaps even likely, as yet there is no evidence.

No bamboos have survived at the University of Minnesota Landscape Arboretum, located in the western part of the Minneapolis/St. Paul megapolis, according to Mary Meyer, the Grass Collection Curator. For instance, of Sasa hayatae, she told me "It only lived a few years." That should come as no surprise, given the harsh prairie-border winters which occur there.

Bamboos are some of the most beautiful plants that I know of. Their evergreen foliage graces our Northwoods in every season, providing material benefits to wildlife and the environment. The latter calls out for further research.

The following bamboos are those which I am currently growing successfully in northwestern Wisconsin in USDA Hardiness Zone 4a, formerly 3b. Each begins with some background information and then continues to my own data. You may notice that their background information is often contradictory, sometimes markedly so, especially regarding their maximum heights and hardiness limits. I Likely some of the latter inconsistencies are due to the author(s) not specifying whether the given temperature is their survival limit for evergreen foliage, the culms, or the rhizomes.

## Bamboos which are successful in northwestern Wisconsin

Fargesia rufa (F. dracocephala 'Rufa'...perhaps) – Nomenclaturally confused, as this appears to be the original Fargesia dracocephala named by botanists (4). It grows to 10 ft./3 m tall and is hardy to -15F/-9C in USDA Cold Hardiness Zones 5 or 6 (3, 4, 33). In the wild, it can be found growing from 5000 or 5249 ft. to

7217 or 7545 ft./1524 or 1600 m to 2200 or 2300 m elevation in the mountains of western Sichuan or in northern Sichuan and southern Gansu Provinces, China (3, 18, 33). This bamboo requires a relatively cool climate and prefers an acidic, humus-rich, well-drained soil in partial shade. Reportedly drought-tolerant (4, 33). An important food of the giant panda (3, 18).

My data: After seeing how remarkably well these plants were overwintering in a sheltered garden on the western edge of the Minneapolis/St. Paul megapolis, I quickly decided to test this species in the Northwoods. Commercial stock was planted in the summer 2020 and 2021, the former on a mound in the creek bottom woods by hemlock, fir, and red oak, while the latter in a small grove of



white spruce by a large basswood. So far, mature culms are a mere 13 in./33 cm tall, but both plants are doing well. This is my only surviving pachymorph (clumping) bamboo.

*Phyllostachys nuda* – Culms grow to 16.5 ft./5 m or 25 ft./7.6 m or 34 ft./10.3 m tall or more (41, 31). To only 8 ft./2.4 m tall in Zone 4 (10). Reputedly the most cold-hardy *Phyllostachys* species and is rated to 10F/-12C or -15F/-26C in Zones 5 or 7 (5,7, 9, 16, 41). Well-established rhizomes can survive to -22F/-30C or even -30F/-34C when mulched well (10, 29, 50). Native to mountainous areas of southeastern China's Zhejiang, Jiangsu, Anhui, and Hunan Provinces where it forms extensive forests (16, 31, 50). This bamboo



dislikes very hot summers, but its tendency to run is curtailed in particularly cool locations (7, 50). It prefers a rich, moist soil around pH 6.5 in a sheltered site in full sun or light woodland (5, 41, 50,). Somewhat drought-tolerant, even tho it likes plenty of moisture in the growing season (17, 50). Useful in agroforestry, since it does not compete with deep tree roots and is resistant to honey fungus root rot (Armillaria mel-

*lea*) (5, 50). The species name "nuda" reportedly comes from its tendency to drop its leaves with extreme cold. Its Chinese name means "stone bamboo" from its heavy culms (31). Cultivated as a source of food and raw materials (50). The shoots are reportedly delicious when boiled for a few minutes and are considered one of the best in the genus *Phyllostachys* (5, 48).



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My data: The plants were obtained as commercial stock in 1995. They need a good amount of sunlight, being intolerant of all but the lightest shade. The latest-growing shoot of the plant in the creek bottom woods was killed the first winter. The plant itself was weakened beneath a yellow birch during drought. After seven years of lingering, it died in the woods. The other is thriving along the woods edge, growing by red pine and black walnut, with mature culms reaching 62 in./157 cm tall. The choice early season shoots are delicious in stir-fries. It is hardier than *P. aureosulcata*, which was growing by it, but it died from the stress of the "winter from hell" (open, virtually snowless). I find this species to be very tolerant of drought. One winter the plant was killed back at -5F/-20C. Another winter the foliage was fine at -8F/-22C,

Pleioblastus auricomus with Lamium maculatum.



while during a third, only the leaves were killed at -6F/-21C. No matter which winter, as with all my other

bamboos, this species inevitably dies to the snowline. The new shoots were uninjured at 27F/-2C. The genet spread to 21 ft./6.4 m wide by 2021.

As I was measuring it, a leaf scratched my eye, causing discomfort for two days. Unbeknownst to me, the leaf margins are lines with tiny bristle-like teeth. Perhaps this serves as a defense against herbivores, as it would act the same way on deer as it did unto me.

Pleioblastus auricomus (P. viridistriatus) – Grows to 1.25 ft./0.4 m to 5 ft./1.5 m or 6.5 ft./2 m tall (19, 42, 44). Hardy to 0F/-17C or -10F/-23C or -13F/-25C in Zones 5 or 6 (31, 33, 42, 45, 48). Unreliably winter-hardy (assuming the foliage or culms) in central and southern Japan, where it is unknown in the wild (9, 35). Its foliage is semi-deciduous (45). Spreads very little in poor or dry soils, but can spread vigorously in fertile, humus-rich, moist, well-drained soil (44). Does not thrive in dry sites or deep shade (9). This bamboo can take full sun, but prefers some shade or full shade (15, 31, 45). It grows

taller in rich moist loam in full sun. Tolerant of drought, polluted air, and walnut allelopathy (33). The hirsute leaf undersides make it resistant to bamboo mite (45). Interestingly, it reportedly does not die after flowering (33).

My data: Planted in the open woods along our drive in 2008 as a garden division from Washington, DC. It is growing by red oak, sugar maple, basswood, and ironwood. This bamboo reaches 30 in./76 cm in height, but acts like an herbaceous perennial over winter, being killed- back at 2F/-16C. By 2021, it had spread to 27 ft./8.2 m wide.

Pleioblastus pygmaeus (P. fortunei var. pygmaeus, Sasa or Arundinaria pygmaeu) – Grows to 1 ft./0.3 m or 16 in./0.4 m or 3 ft./0.9 m tall (9, 20, 42). Hardy to 0F/-17C or -3F/- 19C or -22F/-30C in Zones 5 or 7 (20, 32, 33, 47, 41, 46). In its native Japan, it carpets the forest floors from eastern Honshu south (38). Common in the hills from Honshu's Suruga west and south, but does not grow in Hokkaido (20, 28). Supposedly unknown in the wild (33).

*Pleioblastus* generally are typical of Pacific-side beech forests (43). This species forms an undergrowth in sparse Japanese red pine (*Pinus densiflora*) woodland on



serpentine bedrock in lowland Shikoku (13). It needs partial to full shade and prefers moist soil (33, 41). This is one of the most persistent of all spreading bamboos and tolerates drought, air pollution, Verticillium wilt, and even walnut allelopathy (9, 33, 40).

My data: Plants were obtained as commercial stock, which were planted in the spring of 1979, 1986, 1991, 1995 and the summer of 1994 in the creek bottom woods and in the open woods along a swamp by our drive. There it is spreading rapidly. This species was killed-back at 0F/-17C, but only the most exposed foliage was killed during winters at 9F/-12C or 4F/-15C. It was undamaged at 12F/-11C. The top of a larger plant in porous leafmold soil mostly died back in winter, while a smaller plant in wet mucky soil remained evergreen, so apparently this species needs a lot of moisture. The latter plant was killed when beavers flooded it. The others were browsed off by deer in autumn so that the only surviving plant in the creek bottom woods was the same size in 2020 as when planted in 1995. The one by our drive, planted around 2010, is thriving by red maple and reaches 14 in./35 cm in height. However, the lowest portion along the swamp, which comprised over half of the genet, was killed by winter flooding when a culvert froze up. The remainder of this plant spread to 9.5 ft./2.8 m wide by 2021.

Sasa hayatae (S. veitchii 'Minor' or 'Nana') – Grows to 16 in./0.4 m or 2 ft./0.6 m or 3 ft./0.91 m tall and is hardy to -10F/-23C in Zone 5 (5, 42, 49). Native from Hokkaido to Kyushu (42). Found in mixed forest, open beech woodland, and clearings at high elevations in eastern Honshu. This species is a major winter food (80%) of sika deer and may also be their dominant year 'round food source in northern Japan, as it is more nutritious than woody browse. Extirpated from many areas in recent years due to deer overpopulation (11, 12). Requires partial shade in moist, fertile, well-drained soil (5).

My data: The plants were obtained as commercial stock, which was planted in the spring of 1987 and 1998 in the creek bottom woods, where they grow to 24 in./61 cm tall. The results are excellent, as both plants are spreading vigorously beneath hemlock, fir, yellow birch, red maple, and ironwood. This bamboo does not seem to adversely affect native vegetation. The foliage acquires attractive pale necrotic margins in autumn, probably to minimize water loss in winter. Deer browse this species only very lightly in winter. Depending on the winter, it may be undamaged at -8F/-22C, the foliage on the top half of the plant killed at -6F/-14C, or

killed-back completely at -10F/-23C. Approximately 2/3 of the leaves were killed at -7/-21C under snowless, cold, windy conditions. This bamboo leafs out in late April. The original plant's growth took off nine years after planting. It had spread to an area of  $10 \times 20 \text{ ft./3} \times 6 \text{ m}$  by August 2001 and twenty years later had spread to a width of 38 ft./11.5 m.

Sasa kurilensis (S. coreana) – Grows to 8 ft./2.4 m or 10 ft./3 m tall and is hardy to -5F/-20C or -22F/- 30C in Zone 6 (14, 31, 41, 42). This cold-temperate bamboo grows wild farther north than any other species (27, 41). Considered subarctic, its native range stretches from 50 degrees north latitude on Sakhalin and the Kuril Islands south to Korea and Japan (31, 36, 42). On the Asian mainland it is the northernmost bamboo, with its range limit in Hamgyongbuk-do Province in the northeastern corner of North Korea (27). This species is a dominant understory species in northern Japan, covering over 17% of forests (14). Only grows wild in regions with an average snowfall greater than 20 in./50 cm and tends to dominate steep convex slopes covered with deep snow into early spring (34, 39). Found in spruce forest, subalpine fir forests of northern Honshu, and spruce/fir forests on Hokkaido (1, 36). This bamboo forms a very dense scrub in coniferous forests (1). Typical of high mountain slopes in central and northern Japan, where it grows with beech or fir in these snowy mountains (41). It is the main undergrowth in heavy snow areas on Sea of Japan-side beech forests (36, 43). Grows with hemlock, long beech fern (*Phegopteris connectilis*), and bunchberry (*Cornus canaden*sis). At high altitude it covers vast areas, defeating all competition (9, 38). It is the dominant plant species on sites with deep snowcover on Hokkaido (1). This waist-high, thin-stalked bamboo forms massive, pure, impenetrable stands on the upper third of mountains along with Japanese stone pine (Pinus pumila) (2). Usually, it grows on slopes where the soil is shallow and therefore is adapted to infertile sites (24). It along with other Sasa species slow the growth of trees by competing for water (26). Individual leaves remain alive relatively long, for 3-5 years, but the leaves and culms cannot survive the intense cold above the snowpack in their native habitat, so the tops typically kill back over winter (23). It is slow-growing for a Sasa, but can still spread rapidly and prefers moist, humus-rich soil in partial to full shade (24, 31, 41, 42). Very resistant to honey fungus root rot (Armillaria mellea) (41). Stephen Breyer of Tripple Brook Farm in Massachusetts said that all of the Sasa kurilensis plants perished at his nursery, apparently from heat. This species flowered in the early 1970s and again in 1995 (31). The plants usually recover after flowering, unless they are given synthetic fertilizer. The cooked edible shoots are so popular in Japan that a license is required to harvest them, while the canes are used to make particleboard (41). There is a dwarf form that reaches 4 ft./1.2 m tall with darker foliage (9).

My data: The plant was obtained as commercial stock grown from seed originating on Hokkaido. It was planted in the summer of 1993 in the creek bottom woods by fir, red maple, paper birch, and ironwood, where it grows to 22 in./56 cm tall. It was undamaged at -6F/-21C, but killed-back at -12F/-24C. The results with this species are excellent and it spread to 9 ft./2.7 m wide by 2021.

Sasa nagimontana – Grows to 2 ft./0.6 m tall and is hardy to -5F/-20C. Originates from Mt. Nagi in southern Honshu, Japan. This species requires shade (8).

My data: The plant was obtained as commercial stock, which was planted in the spring of 2009 in the creek bottom woods by hemlock, fir, black ash, and alder. It grows to 4 in./10 cm tall. This species remained undamaged at -5F/-20C, but the leaves were killed at -6F/-21C, and the plant killed back at -12F/-24C. This bamboo had spread to 30 in./76 cm wide by 2021.

Sasa tsuboiana – Grows to 5 ft./1.5 m or 6 ft./1.8 m tall and is hardy to 5F/-15C or-5F/-20C or-10F/-23C or 13F/-25C or -20F/-28C in Zone 6 (4, 7, 9, 29, 42). This bamboo is native to central and southern Japan (Honshu and Shikoku) up to 4100 ft./1250 m in elevation (31, 42). Common within deciduous forests, where it forms from 50 to 85% of the cover (25). It flowered in 1977 in the Hira Mountains of central Japan. In one of these areas, *Miscanthus sinensis* grass became dominant for ten years until it was replaced by the Sasa. In other areas, shrubs became more widespread and stayed so for a lengthy period (31). This bamboo prevents firs from regenerating, such as in the relict fir forest on Shikoku (1). Full or partial shade are needed and it prefers a moist, fertile, humus-rich, well-drained soil (4, 17, 31). This species spreads moderately and forms mounded clumps which are less invasive than many other Sasa species, altho still fairly fast-spreading (4, 25, 31). The leaves are 11 in./28 cm long by 2.5 in./6.3 cm wide (31). In the wild, it is grazed by hares (25).

My data: The plant was obtained as commercial stock and planted in the spring of 2009 in the open woods near a swamp along our drive by paper birch, blue-beech, black ash, and alder. It grows to 19 in./48 cm in height. This species was undamaged at -8F/-22C one winter, but killed-back at the same temperature another. It had spread to 6.5 ft./1.9 m wide by 2021.

Sasa veitchii hirsuta (S. veitchii grandifolia or scytophylla, S. sachalinensis) – Grows to 3 ft./0.9 m tall and is hardy to -15F/-26C (6). In the wild, found in the mountains from Sakhalin south to Shikoku at between 1312 to 2296 ft./400 to 700 m in elevation (37). Likes good indirect light all day to half a day of full sun. Regenerative growth following flowering is inhibited by sika deer browsing (22). The leaves of var. hirsuta are longer and narrower than those of the species (6).

My data: My plant originated as commercial stock which was planted in the spring of 2001 in the creek bottom woods by hemlock, fir, red and sugar maples, and ironwood. This bamboo remained undamaged at -5F/20C, the leaves on top half of the plant were killed at -6F/-21C, and all the foliage was killed at -7F/-21C under snowless, cold, windy conditions. It was killed to ground during the "winter from hell" (open, virtually snowless). The original parent plant bloomed in June of 2008, produced seed, and died. Two self-sown seedlings came up nearby in August of 2009. These two seedlings have grown to 6 in./15 cm tall so far, with a spread of a mere 3 in./7.6 cm and 4 in./10.1 cm wide respectively by 2021, but appear to be quite healthy. They are growing in a very sandy, acidic, loam which may account for their slow growth.

#### Bamboos which did not survive

*Arundinaria gigantea* – Plants collected in the Ozarks of southeastern Missouri were uninjured at -10F/-23C, but eventually died out. Plants were also collected from southern Illinois. Deer ate a top during winter. Drowned from high water.

*Arundinaria gigantea tecta* – Planted on a seep area in woods. Deciduous the first year, with canes undamaged at -30F/-34C. Remained evergreen at -14F/-25C. Spreading. Killed-back at -24F/-31C with solidly frozen soil. As conditions seemed too shady at the seep area, I transplanted it to a low south-facing creekbank four years later. It died there during a hard winter.

Fargesia dracontium (dracocephala?) – A dwarf species only about a foot/30 cm tall. Originally planted in the creek bottom woods. Browsed by deer in autumn. Killed-back at -5F/-20C. Due to the proximity of

beaver flooding, it was transplanted to the edge of the woods. Died after many years of doing well, perhaps being shaded out by rhododendrons.

Fargesia muriale – Flowered and died in 1995.

Fargesia nitida – One planted was located in the creek bottom woods, where it sent up shoots in early May. Uninjured at -15F/-26C, but killed-back at -21F/-29C. Completely gnawed off by voles in winter. After nine years, it bloomed and died in 1998. The one in the open bed killed to the snowline every winter. It died after many years.

*Indocalamus tesselatus* – Planted in the creek bottom woods. Undamaged at 8F/-13C, but killed-back at -4F/-20C. Not evergreen here. Died the third winter.

Phyllostachys aureosulcata – Undamaged at 0F/-17C one winter while the foliage was killed another winter at the same temperature. Killed-back at -26F/-32C. Aboveground parts browsed off by a rabbit in fall. Died in the creek bottom woods, while persisting longer at the edge of woods. Stressed from the "winter from hell" (open, with virtually no snow) and died the following winter.

*Phyllostachys nigra* – Killed at -15F/-26C.

Pleioblastus akebono – Killed-back at 0F/-17C in the creek bottom woods. Died.

*Pleioblastus chino vaginatus* 'Variegatus' – Killed-back at 0F/-17C. Died after many years of spreading along the edge of the woods.

*Pleioblastus fortunei variegatus* – After many years of spreading along the edge of the woods, it died one winter.

*Pleioblastus okinosaka* – Died in the creek bottom woods the first winter.

*Pleioblastus shibuyanus* 'Tsuboi' – Planted along the edge of the woods. Died open (virtually snowless) winter at -5F/-20C.

*Pleioblastus simonii* – Died, apparently due to cold.

Sasa kurilensis 'Simofuri' – Planted in the creek bottom woods. Less hardy than the species, as the foliage was killed at 2F/-16C. Browsed heavily by deer in autumn. Killed to the ground first winter, while the species was fine. Died the following winter at -6F/-21C.

Sasa megalophylla – Killed-back at 0F/-17C in the creek bottom woods. Killed by a combination of deer browsing and a long winter.

Sasa palmata – Injured at -2F/-18C and killed-back at -5F/-20C. Only survived an open (virtually snowless) winter in the creek bottom woods where it was killed to the ground, not along the edge of the woods. Died the following winter. Not as cold-hardy as the following.

Sasa senanensis – Planted in the creek bottom woods. Browsed by deer in summer, fall, and winter. Undamaged at -11F/-23C. Killed-back at -13F/-25C. Drowned by beavers.

Sasa veitchii – The straight species, planted in the creek bottom woods, died the first winter at -5F/-20C.

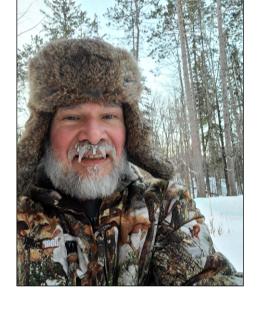
Sasaella masamuneana 'Albostriata' – Killed-back at 0F/-17C in the open woods between our drive and a swamp. Died the following winter.

Sasaella ramosa – Dug up by bear in a wooded ravine beneath a beech and therefore died the year it was planted.

*Shibataea chinensis* – Died the first winter at the edge of woods.

Shibataea kumasaca – Did well for a while in the creek bottom woods. Leaf tips died over winter. Undamaged at 0F/-17C one winter while killed-back at the same temperature another. Demolished by deer during the winter and died. Another planted along the edge of the woods was not very hardy and died from a hard winter.

It will be interesting to continue collecting long-term data on those tough, but beautiful, bamboos which deign to survive in and enhance our Northwoods. Not only data on their environmental tolerances, but also data on how they interact with other species of plants and



animals. This coming year I will be planting a replacement for possibly my hardiest bamboo, Sasa senanensis, which was sadly drowned by beavers many years ago, along with a new species with a far-northern range in East Asia, Sasa (Sasamorpha) borealis. Another will be a replacement Indocalamus tesselatus, which I hope to keep alive by planting in the open woods along our drive where the snowplow will bury it deeply with insulating snow. Thus, the testing continues....

The author after checking the bamboos at -40.

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## From the editor:

Submissions are always welcome!

Please send for our consideration:

- Articles you've written
- Articles you saw and found interesting (we will seek permission to publish)
- Pictures
- Recipes
- Poems
- Original artwork
- Anything related to the wide world of bamboo! As always, thank you to the members who send submissions, links to interesting articles, and updates on chapter activities.

Articles, links and photographs can be sent to magazine@bamboo.org.

Due to the pandemic, with reduced chapter and national ABS activities, we have been short of submissions. Hence the delays in publication of recent issues.

For archiving purposes this is the Winter 2021-22, Vol. 42, Issue 4, even though you are receiving it in spring of 2022. It is likely that we will have three issues in Vol. 43 rather than four.

# **Visiting Bamboo Gardens in France**

By Luc Boeraeve

Visiting Bamboo Gardens in the Périgord (France) with the French Bamboo Society (Association Européenne du Bambou, Section France, AEB-Fr) on 22 and 23 October 2021.

Three years ago, the French bamboo society visited several gardens and nurseries in Belgium and The Netherlands. Since they had good memories of this, they invited bambooseros from Belgium and the Netherlands to join their autumn garden and nursery visits in the Périgord region (Dordogne, Bergerac area). So 7 'Northerners' joined AEB-Fr visiting several extraordinary bamboo gardens in the beautiful region around the Dordogne River.

## Jardin remarquable de Latour-Marliac in Le Temple-Sur-Lot (department Lot-et-Garonne)



#### **Latour Marliac:**

Left: Path with *Phyllostachys nigra* 'Boryana' on the left

Left, below: tropical waterlily Victoria

Below right: the nursery manager in the nursery pond with tropical waterlilies

Next page:

Top: View of the garden

Bottom: *Phyllostachys* sulphurea 'Robert Young'





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We met the French AEB members at the entrance of this 'remarkable' garden to start our multi-day garden visits. A garden and water lily nursery created by Bory Latour-Marliac in the 2nd half of the 19th century. The path into the garden was bordered by an impressive stand of tall Phyllostachys nigra 'Boryana', named after the founder of this garden and nursery.

Besides the beautiful garden with a large pond, there is a water lily nursery, holding the French national water lily collection of 350 different varieties (including tropical), a greenhouse with the Victoria water lily, a Lotus collection (60 varieties) and the oldest bamboo collection in Europe.

The original owner/founder of this nursery/garden, Bory Latour-Marliac, started his bamboo collection around 1860 with bamboos he introduced to Europe. He was in regular contact with and exchanged plants with Eugène Mazel of the Bambouseraie de Prafrance. Several bamboos introduced by him were named af-



ter him, namely *Phyllostachys bambusoides* 'Marliacea' and *Phyllostachys nigra* 'Boryana'. Two other bamboos he named after friends of his, namely *Bambusa multiplex* 'Alphonse Karr' and *Phyllostachys bambusoides* 'Castillonis'. The bamboo collection takes up only a small part of the garden and nursery and is not the main attraction. Nevertheless there is still a section with a number of bamboos, mainly *Phyllostachys*, and more than worth a visit.

Consult the website <a href="http://latour-marliac.com/fr/">http://latour-marliac.com/fr/</a> for opening

hours and location.

#### **Rezo-Plant:**

Left: RP truck with Panda

Below: *Phyllostachys vivax* 'Aureocaulis' in container production

## REZO-PLANT bamboo farm at Les Vergnières, Montauriol, 47330 Castillonnès

The de Reze family welcomed us to their nursery covering an area of 19 ha where fruit trees are grown in addition to bamboos. This bamboo nursery is possibly the largest in France and has 200 species of bamboos, many of which are in production. The bamboos are grown both in soil and in containers, in open air and in greenhouses. The group was impressed by this beautiful and well-organized bamboo farm as well as by the friendly and informative reception. Website: <a href="https://rezo-plant.com">https://rezo-plant.com</a>.



## Jardin Remarquable de Planbuisson in Le Buisson de Cadouin

This collection garden with 240 different bamboos is for every true bamboo lover, as it says on the Planbuisson website "Un rêve de Bambous en Périgord" ("A dream of bamboos in the Périgord").

Michel Bonfils (1932 - 2017) who had spent many years in Africa, started growing plants after his return to France on a family estate of 2 ha planted with walnut trees. His fascination with bamboos started after reading an article that introduced him to the hundreds of species of bamboos that differ from one another in height, color, leaf shape, culms, etc. In 1989 he started his bamboo collection which gradually expanded and took over the place allotted to walnut trees on his property. From 1993, he also began to show interest in other plants from the same botanical family as the bamboos, namely grasses. Rare trees and shrubs also found a place in his garden.

The garden is well laid out and, although being a collection garden, it is very attractive to wander one moment through tall bamboos and then past smaller bamboos and other plants. Some bamboos seen here worth mentioning are *Phyllostachys edulis* 'Bicolor', *Phyllostachys edulis* 'Nabeshimana', *Phyllostachys edulis* 'Heterocycla', *Phyllostachys bambusoides* 'Castillonis Inversa', *Phyllostachys sulphurea* 'Robert Young' and *Yushania boliana*. The gardener takes pride in having all his bamboos correctly named.

In addition to the bamboos and grasses, the garden has a Zen-inspired dry stone garden. Perennials and shrubs were planted to make the visit more attractive to the general public. A few bamboo art works can be found in the garden as well.

In 2005 the Ministry of Culture and Communication awarded the label "Jardin Remarquable" to Planbuisson, label which it has to this day.

In order to ensure the survival of his plant collections, Michel Bonfils entrusted his garden to a non-profit association "Les Amis du Jardin du Planbuisson", association founded in 2001. This association aims to promote knowledge of plants of the grass family, in particular bamboo. The maintenance of the garden is carried out by one person who also runs the plant nursery associated with the garden.

The garden is located approximately 30 km east of Bergerac, see the website <a href="https://planbuisson.com">https://planbuisson.com</a> with the address and opening hours.



#### Jardin Remarquable de Planbuisson

Above: President of the 'Amis de Jardin de Planbuisson' (2nd from the left, white beard), Benoit Mouline (president AEB-Fr, with blue notebook), Florence Bouillon (former president of AEB-Fr, to the right of Benoit Mouline), Anna Mion (editor AEB-Fr magazine, to the right of Florence)
Next page, top: Grasses with *Phyllostachys edulis* 'Bicolor' to the right in the back

Next page, bottom left: *Phyllostachys edulis* 'Heterocycla' (Kikkochiku)
Next page, bottom right: *Phyllostachys edulis* 'Nabeshimana'







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## Exotic garden of La Roque-Gageac

The last garden visit with the AEB-Fr took place at La Roque-Gageac, a small but very beautiful village located at the foot of high chalk cliffs near the Dordogne River. This long narrow garden lies at the foot of south facing cliffs with a warm micro-climate where Mediterranean and exotic plants thrive and survive the winter without problems.

The garden was created and developed from the 1970s onwards by Gérard Dorin, president of the "Fous des Palmiers" society and passionate about tropical plants. Here he tried, with good results, to plant plants from all over the world such as bananas, palm trees, Yuccas, Citrus trees, Albizzias, Agaves, bamboos etc.



Of course, the bamboos attracted our most attention, including the *Phyllostachys bambusoides* Marliacea' with grooves in the culm, the huge stand with dead culms of *Ph. bambusoides* 'Castillionis' but especially the 24 meter high *Phyllostachys vivax*.

This garden, which is open to the public free of charge, belongs to the company "Les Garbares Norbert", which operates cruises on the Dordogne with traditional cargo boats. A boat trip on the Dordogne was therefore the perfect conclusion of our trip with the French bamboo society.

https://www.guide-du-perigord.com/en/tourism/discover/tourist-sites/nature-reserves-parks/la-roque-gageac-377/le-jardin-tropical-de-la-roque-gageac-7797.html

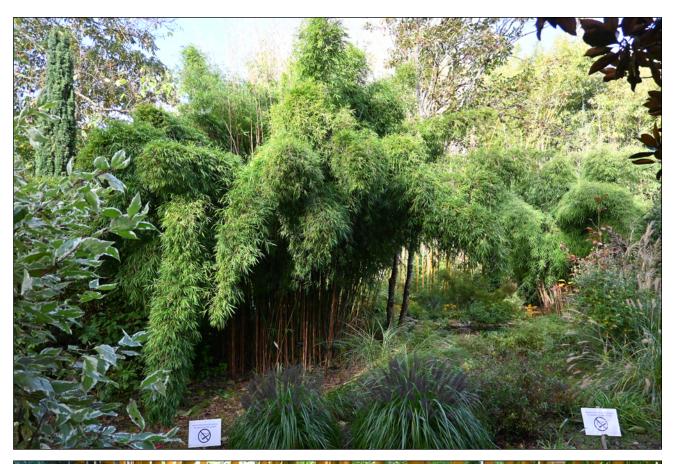
III The quality label "Jardin Remarquable" (JR) is awarded by the French Ministry of Culture to private and public gardens and parks which have a particular historical, aesthetic, cultural or botanic interest. Please check the following website of the Ministry for the complete list of JR: <a href="https://www.culture.gouv.fr/Aides-demarches/Protections-labels-et-appellations/Label-Jardin-remarquable">https://www.culture.gouv.fr/Aides-demarches/Protections-labels-et-appellations/Label-Jardin-remarquable</a>



Left: Chimonobambusa communis

Next page, top: Yushania boliana

Next page bottom: *Phyllostachys edulis* 'Bicolor' (*Sasa veitchii* in the back)





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Above: Fargesia velutina (left side), at the back Ph. vivax 'Aureocaulis'

Left: admiring 24 m high Phyllostachys bewonderen

Next page, top left: Bananas and palm trees

Next page, top right *Phyllostachys bambusoides* 'Marliacea': typical grooves

Next page, bottom: Dead culms of *Phyllostachys* bambusoides 'Castillonis' following flowering

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# First tarantula to live in bamboo stalks found in Thailand

by Pensoft Publishers

January 12, 2022

Inside a bamboo culm in Thailand, researchers discovered the first case of a genus of tarantula that lives exclusively in bamboo stalks.

A famous wildlife YouTuber from Thailand, JoCho Sippawat, was the first to find the new species of <a href="mailto:bamboo">bamboo</a> culm <a href="mailto:tarantula">tarantula</a> in Mae Tho, Mueang Tak district, Tak province. He then collaborated with arachnologists Dr. Narin Chomphuphuang (Khon Kaen University) and Chaowalit Songsangchote (Kasetsart University), who studied and described the new genus.

The new tarantula genus bears the name Taksinus in honor of the Thai king Taksin the Great. The researchers chose the name in recognition of Taksin the Great's old name, Phraya Tak—governor of Tak province, which is where the new genus was discovered. After the Second Fall of Ayutthaya in 1767, Taksin the Great was the only king of the Thonburi Kingdom to become a key leader of Siam, prior to the establishment of Thailand.

What distinguishes Taksinus from all other Asian arboreal genera is the relatively short embolus of the male pedipalps, which is used to transport sperm to the female seminal receptacles during mating. Its habitat type and distribution are also different from those of <u>related species</u>. While Asian arboreal tarantulas have been reported in Indonesia, Malaysia, Singapore, Sumatra, and Borneo, this is the first such genus known from Northern Thailand.

Tarantulas from Southeast Asia can be either terrestrial or arboreal. Arboreal tarantulas spend time on different types of trees, but, to date, this is the first tarantula that is only found on a specific tree type.

"These animals are truly remarkable; they are the first known tarantulas ever with a bamboo-based ecology," Dr. Chomphuphuang said.

The tarantulas were discovered inside mature culms of Asian <u>bamboo stalks</u> (Gigantochloa sp.), hence their scientific name - Taksinus bambus. Their nest entrances range in size from 2–3 cm to a large fissure and feature a silk-lined tubular burrow, either in the branch stub or in the middle of the bamboo culms. All the tarantulas found living in the culms had built silken retreat tubes that covered the stem cavity.

Few people realize how much of Thailand's wildlife remains undocumented... We are primarily on a mission to research and save the biodiversity and wildlife within these forests from extinction, especially species-specific microhabitats.

"We examined all of the trees in the area where the species was discovered. This species is unique because it is associated with bamboo, and we have never observed this tarantula species in any other plant. Bamboo is important to this tarantula, not only in terms of lifestyle but also because it can only be found in high hill forests in the northern part of Thailand, at an elevation of about 1,000 m. It is not an exaggeration to say that they are now Thailand's rarest tarantulas," says Dr. Chomphuphuang.

These spiders cannot bore into bamboo stems themselves. Sometimes, they rely on the assistance of other animals such as the bamboo borer beetle, bamboo worm, bamboo-nesting carpenter bee, and some rodents. In other cases, rapid changes in moisture content can cause bamboo to crack.

"Few people realize how much of Thailand's wildlife remains undocumented," Dr. Chomphuphuang points out. "Thai forests now cover only 31.64% of the country's total land area. We are primarily on a mission to research and save the biodiversity and wildlife within these forests from extinction, especially species-specific microhabitats."



The tarantula Taksinus bambus in its habitat. Credit: JoCho Sippawat

The research was published in ZooKeys: <a href="https://zookeys.pensoft.net/article/76876/">https://zookeys.pensoft.net/article/76876/</a>

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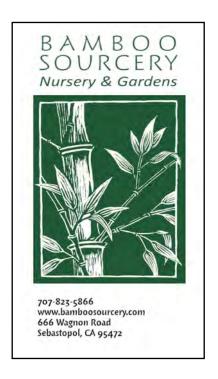
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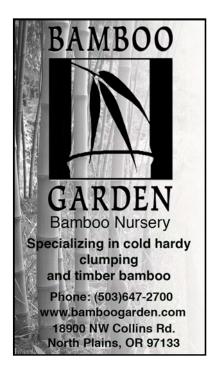




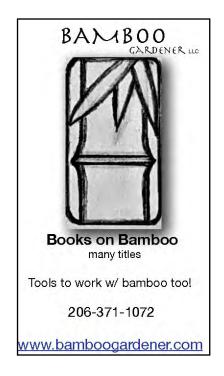
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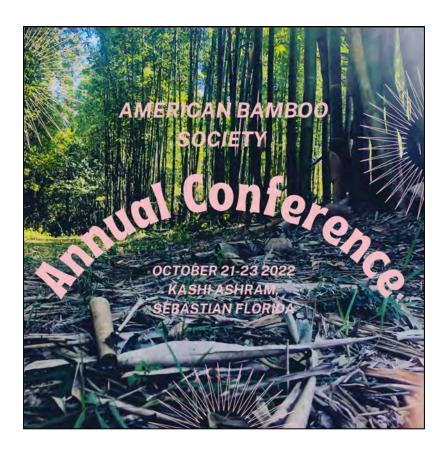
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