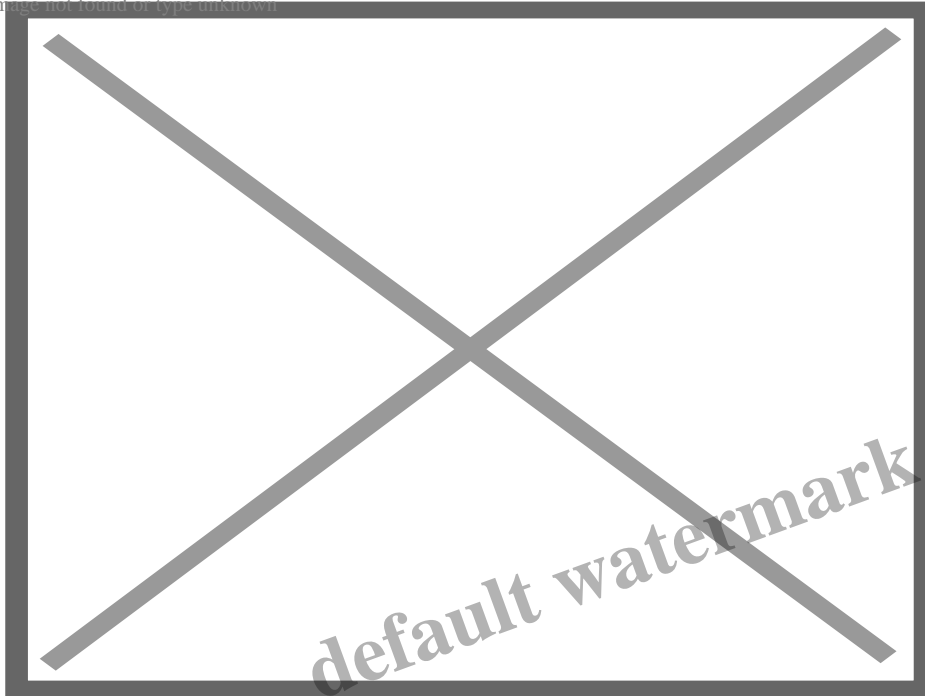


## Guitars made from bamboo: who knew?!

### Description

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*A Giant panda eating bamboo. Source: [CNN](#)*

*Bamboo is a widespread, fast growing plant. As well as being what giant pandas eat, it is used in many ways, including as a sustainable replacement for wood as structural material. Yamaha launched a guitar made from bamboo in 2000 which received a mixed reception at the time. Other guitar makers are following suit, and bamboo offers an interesting and different option as a material to make guitars with.*

### Cute and cuddly

There's not often an excuse to start a post on guitar woods with a picture of a cuddly animal. So, when there's a connection to one of the most iconic species on the planet, I'm not going to pass up the opportunity.

Yes, it's a [giant panda](#). Giant pandas live in China. We heard a lot about giant pandas when I was growing up in Scotland, mainly because there was great interest in a panda called [Chi-Chi](#) who lived at the London Zoo.

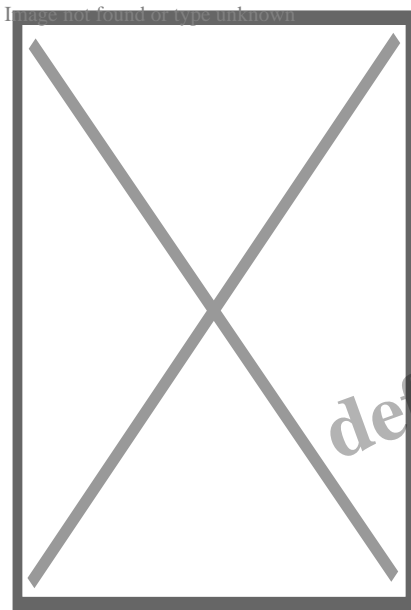
Chi-Chi was famous not only because she was cute, but because she was caught up in [trade wars and Cold War intrigues](#) – she ended up in London because the US had a trade embargo with communist China, where Chi-Chi originally came from. And there was an unsuccessful attempt to get Chi-Chi to mate with An-An, a panda from a zoo in Russia. It was no mean feat to get the pandas together at the

height of the Cold War, but Chi-Chi gave An-An the cold shoulder anyway.

*Animal Icon | Chi Chi The Panda | Tasmin Little*

Chi-Chi died in 1972 and, I discovered, was stuffed and put on display at the Natural History Museum, poor thing – and recently needed some [restorative work](#).

She was, however, also immortalised as the inspiration of the logo for [WWF](#) – the Worldwide Fund for Nature, which started life in 1961 as the World Wildlife Fund. According to their [website](#), “WWF’s founders were aware of the need for a strong, recognizable symbol that would overcome all language barriers. They agreed that the big, furry animal with her appealing, black-patched eyes would make an excellent choice.”

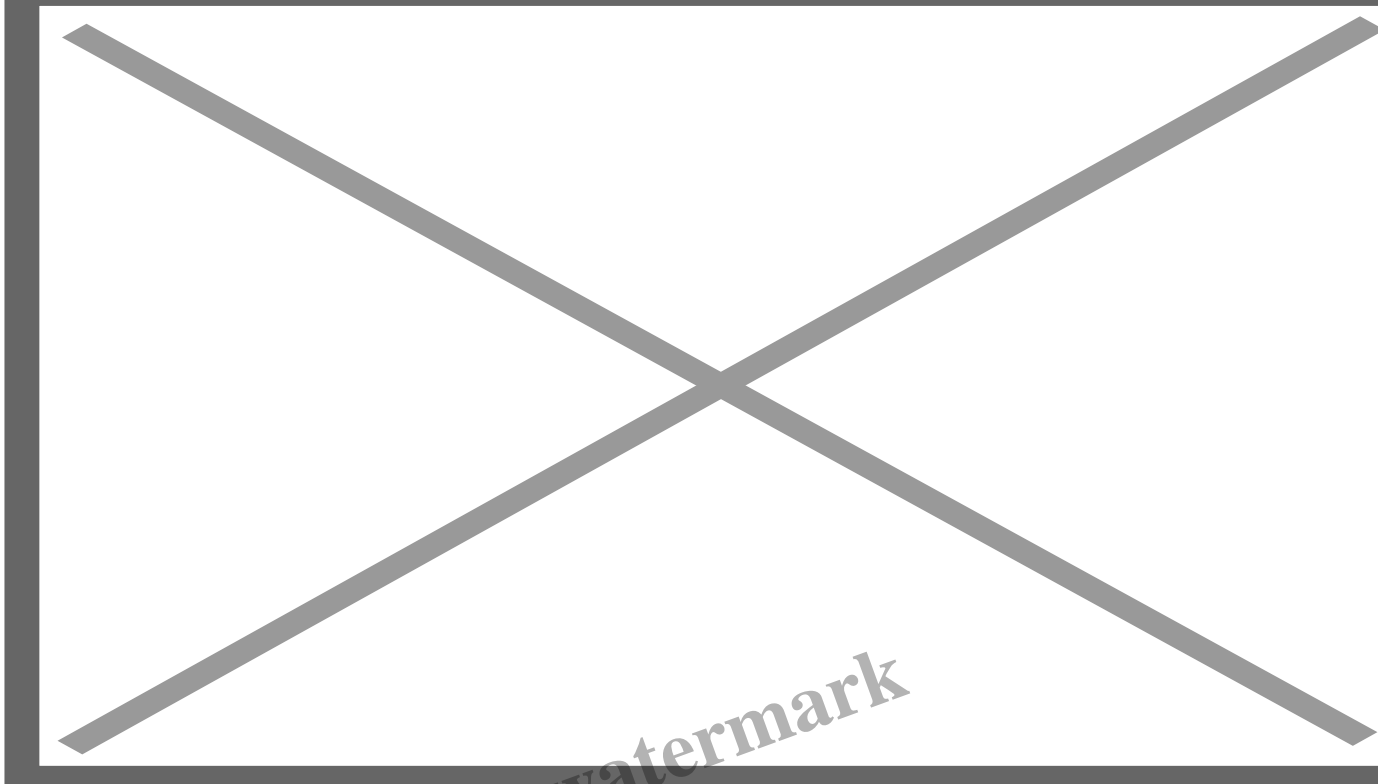


Source: [Wikipedia](#)

## Giant Pandas as conservation icons

At the time that WWF was founded, the giant panda was also emblematic of a wider array of wildlife that was facing increasing threats to their existence because of human activities. Many species of animal were threatened by direct impacts on their population through human harvesting and hunting – either for food or for valued items such as elephant [ivory](#) and [rhino horn](#). Indirect impacts through habitat destruction and modification also added to the plight that many species were in.

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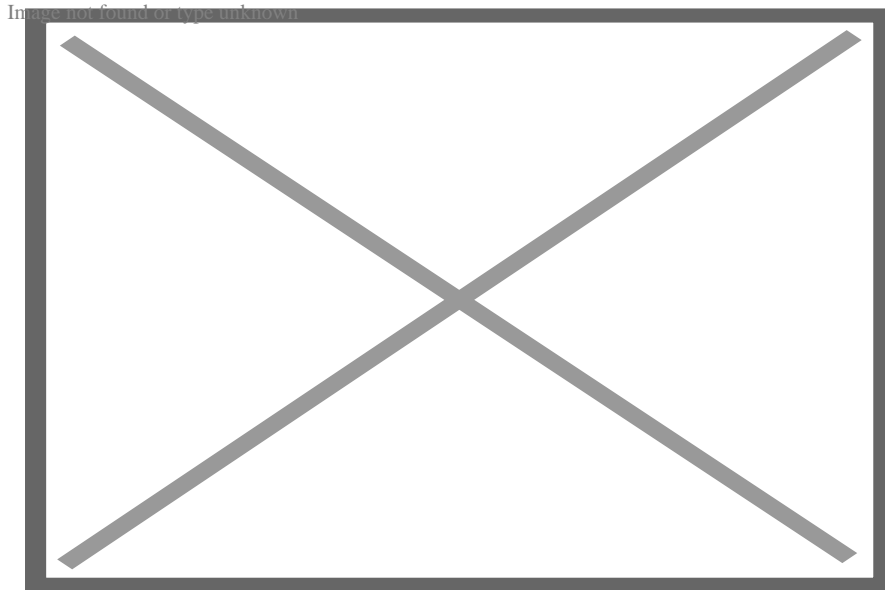


Wildlife species around the world face varying levels of threat and endangerment. Image source: [Allyouneedisbiology](#)

Since then, the threats to animals -and plants – have mostly become more pervasive and severe. At the same time, awareness of the threats to the species we share the planet with has also increased, and along with it the realisation that things can be done to slow or reverse declines and extinctions. Conservation initiatives have ramped up in many places, and there have been some notable successes in turning around the fate of some species. A mixture of habitat conservation, [captive breeding](#) programs and policies to reduce overuse and [illegal trade](#) of animal products have all helped.

Wild pandas are found only in a few mountain ranges in central China. They once also lived in more lowland areas, but these areas have largely been taken over by farming, deforestation, and other development. Thankfully, pandas are an example of a species that has seen its [conservation status improve](#) recently, with its IUCN classification changing from “endangered” to “vulnerable” in 2016 – due to conservation efforts, including protection of large areas of panda habitat and combining nearly 70 natural reserves to form the Giant Panda National Park.

## Pandas eat bamboo



*More pandas eating bamboo. Source: [Pandas International](#)*

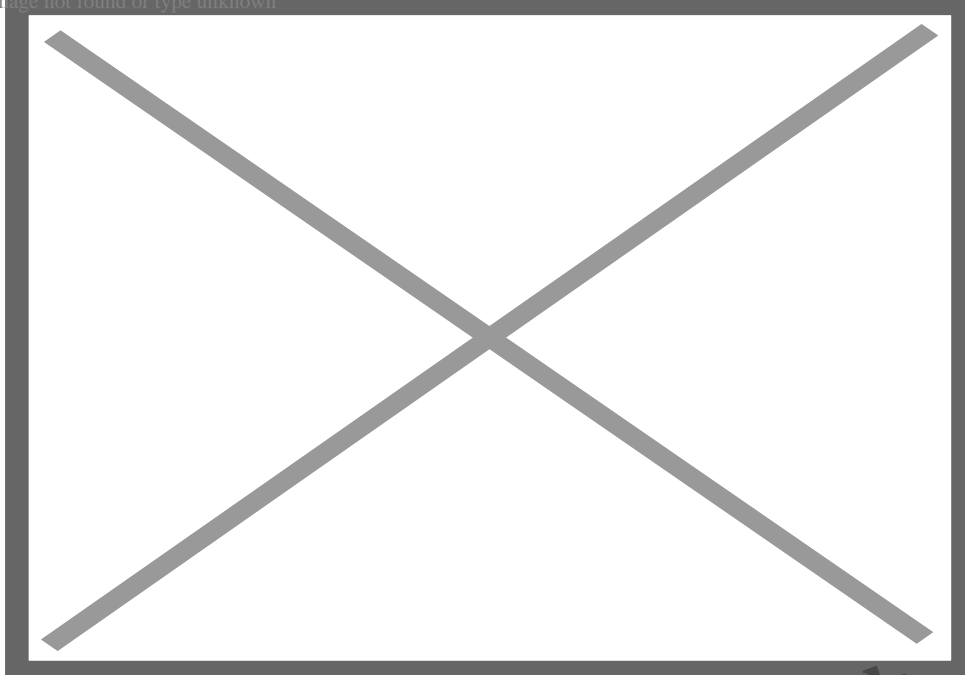
A peculiar characteristic of Giant Pandas is that their diet is made up almost entirely of bamboo. An average panda will eat 9-14kg of bamboo shoots and leaves per day – that’s a lot of bamboo and it takes up a large part of their day just achieving that intake. In their natural habitat, there are several species of bamboo available for them to eat, but the number of species declines higher up mountains – which can be a problem if the pandas are forced to live at higher altitudes because of habitat destruction lower down.

Most bamboos exhibit periodic [mass flowering](#), which means that all the stems of a species flower at the same time, after which the entire plants die, to be replaced by new seedlings. Obviously, that means that there is a period over which little bamboo is available, which is a problem for the panda unless there’s an alternative.

## Bamboo, the wonder plant

[Bamboo](#) isn’t just panda fodder. It’s really an amazing plant. There are over 1400 species growing across many regions of the world. Basically an oversized grass, bamboo can grow over 40 meters tall with stems over 30cm thick. A bamboo species has been named as the [world’s fastest growing plant](#), growing up to 91cm in a day. In some places, dense thickets form – bamboo forests, in effect.

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A bamboo forest in Japan. Source: [Japan Experience](#)

These forests have some interesting characteristics, including the sounds they make in the wind. The bamboo forest “[soundscape](#)” is a recognised phenomenon in its own right in Japan.

*The Sound of Sagano Bamboo Forest in Kyoto*

Most bamboo species have underground stems or rhizomes from which new shoots emerge. Bamboos can either be “clumping” or “running”, depending on the rate of growth of these underground stems. Slow growth leads to dense clumps of bamboo, while faster growth leads to [outwards spread](#), which can sometimes be quite rapid. This leads to bamboo becoming a [problem species](#) if it runs into areas where it is not wanted.

Entire bamboo plants, including the underground rhizomes, can live for 60-120 years before they flower and die. Individual stems are much shorter-lived though, growing to their full height within their first growing season and maturing and hardening in the next few years. After that, they usually are colonized by fungus which eventually causes the stem material to decay and collapse.

## It's useful too

Bamboo is used in all sorts of ways from cooking to construction. Some bamboo is harvested from native forests, but a lot is also cultivated. It's a fast-growing source of fiber and hence can be used in any application that uses fibers – such as paper, fabric, fuel and as a structural material. I have bamboo socks and the toilet paper we get from [Who Gives a Crap](#) is made from bamboo.

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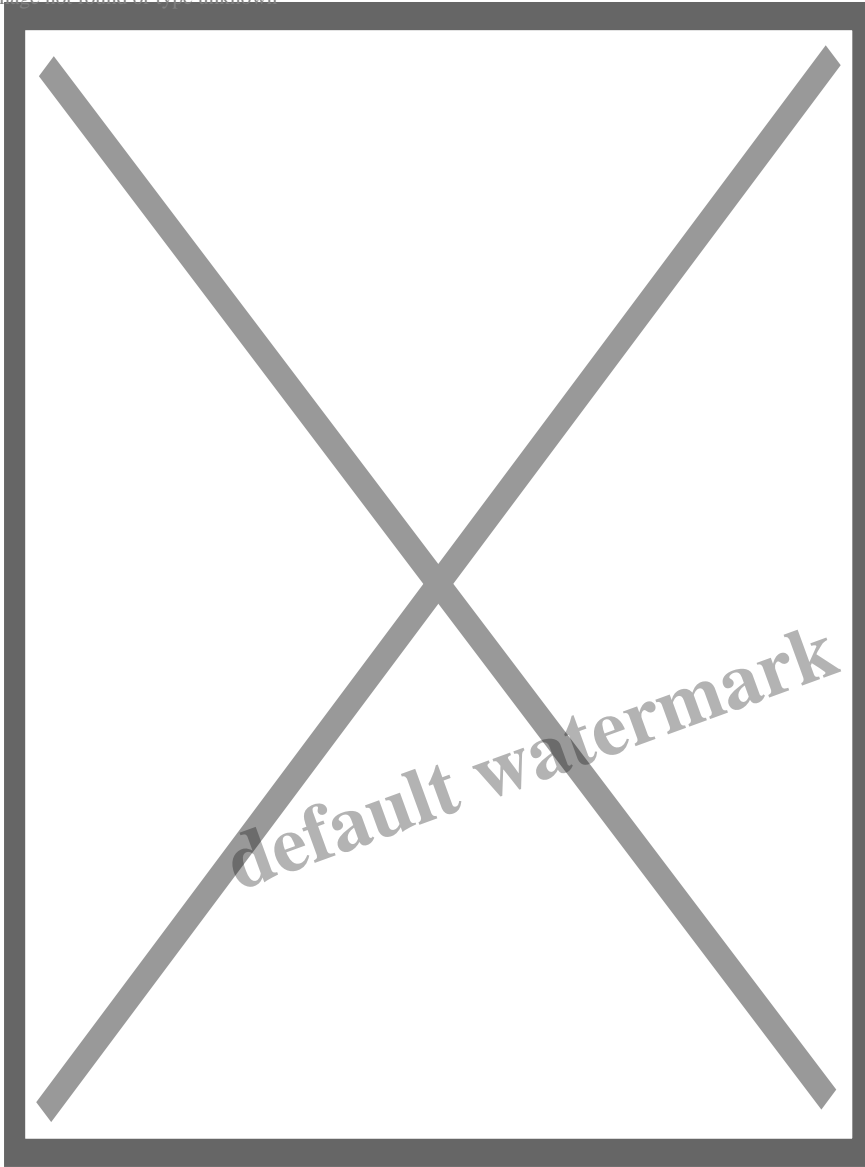
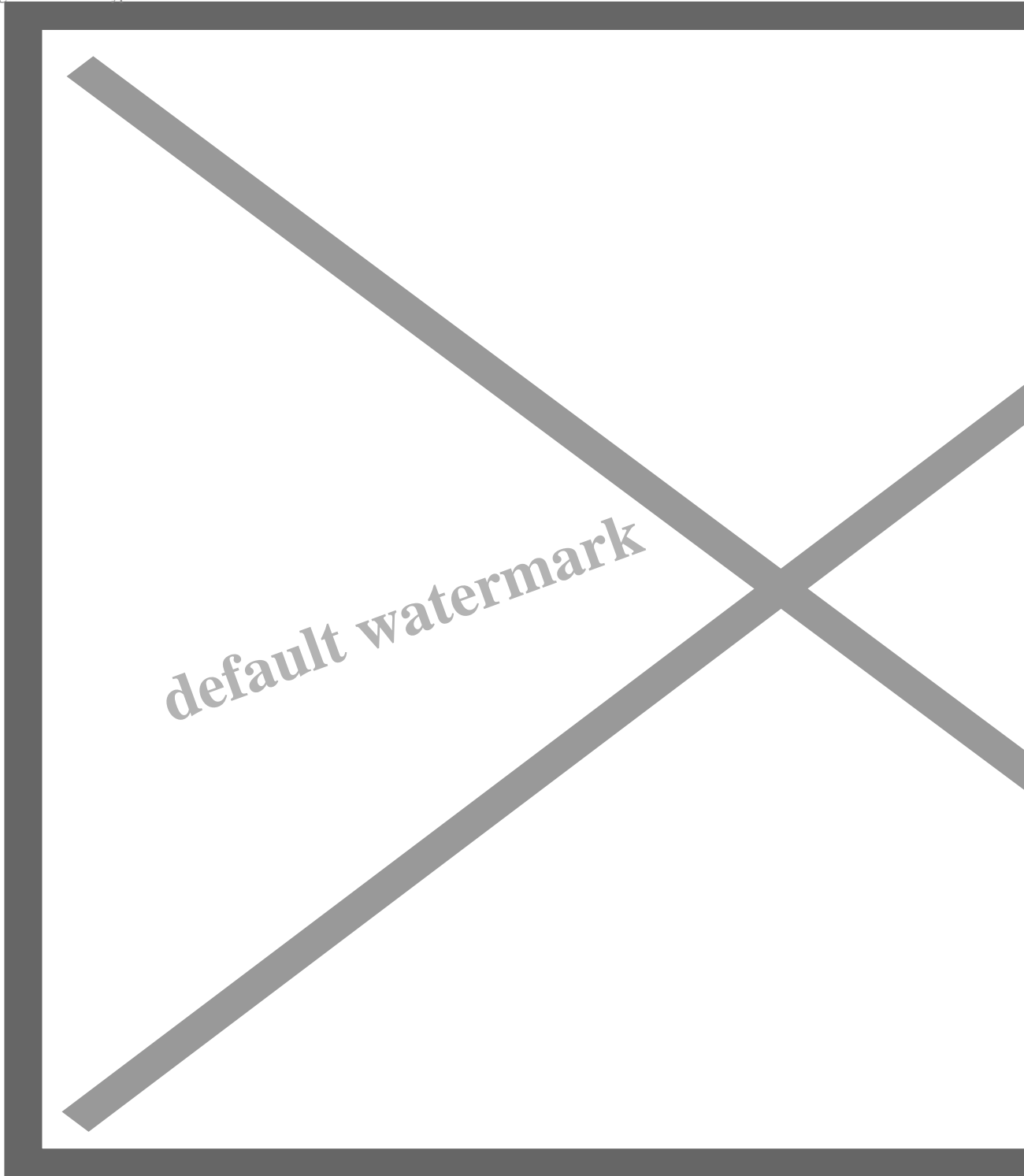
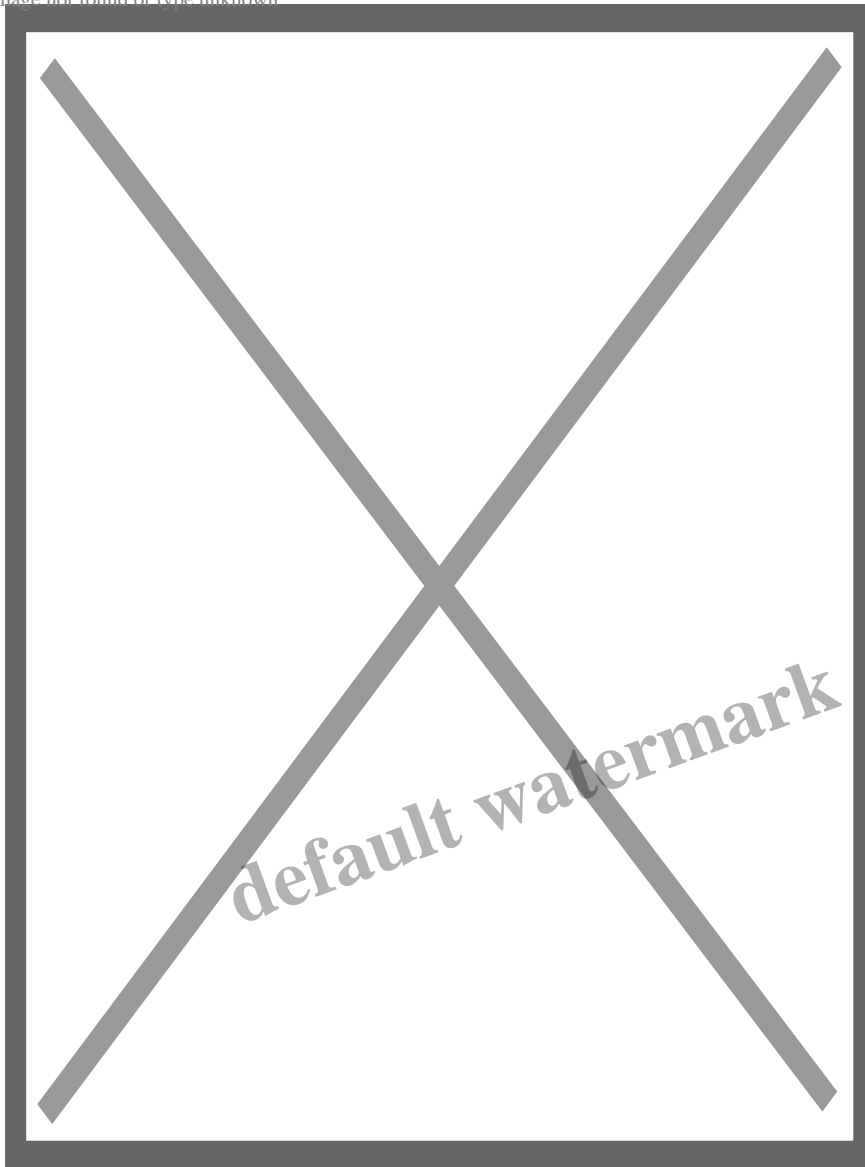


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*Bamboo toilet paper*

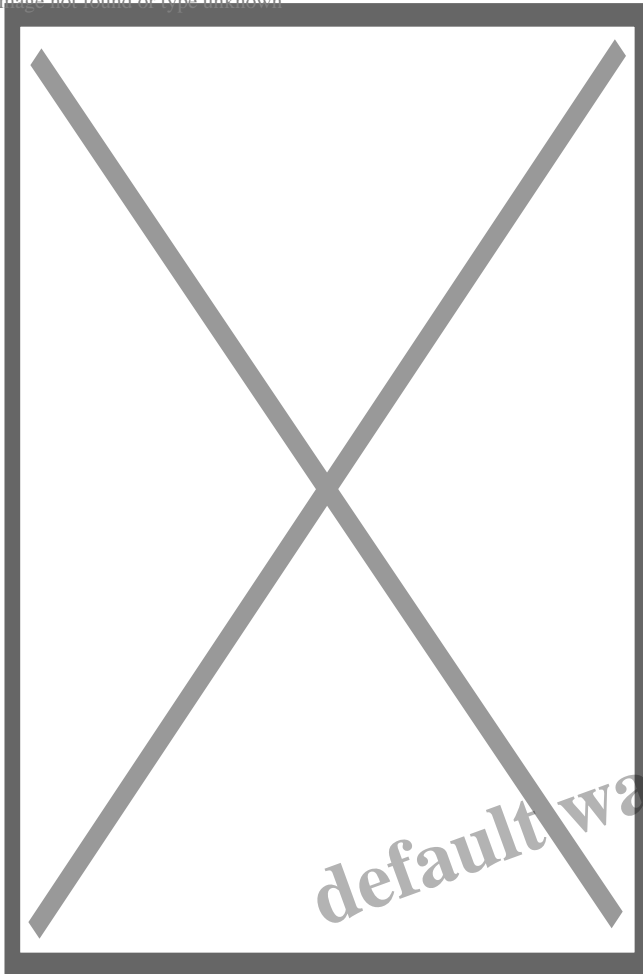
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Being a grass rather than a tree, bamboo does not contain any actual wood, but when its stems have hardened, the resulting material is strong and often used as a wood alternative. It's a traditional building material in parts of Asia and the South Pacific, and is still used as [scaffolding](#) in Hong Kong. When turned into a laminate, bamboo produces a strong material suitable for furniture and the like.



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*Bamboo scaffolding used on skyscrapers in Hong Kong. Source: [Goldthread2](#)*

Bamboo products are increasingly popular, not just because of their utility but also because of their [sustainability credentials](#). Bamboo's fast growth rate and its ability to grow in otherwise marginal land make it an attractive alternative to having to fell trees for timber. It also can suck up a lot of carbon dioxide and, in addition, help reduce emissions by replacing products that require a lot of energy and resources to make.

## A bamboo guitar?

So, if bamboo is everything from panda food to construction material, can it be used to make guitars? If, as we saw in an earlier post, [flax fibers](#) can be used as raw material for guitar, why not bamboo? And, of course, the answer is that, yes, bamboo can be used for guitars. It's not common, and the jury is out on whether it produces good guitars or not, but there are bamboo guitars around.

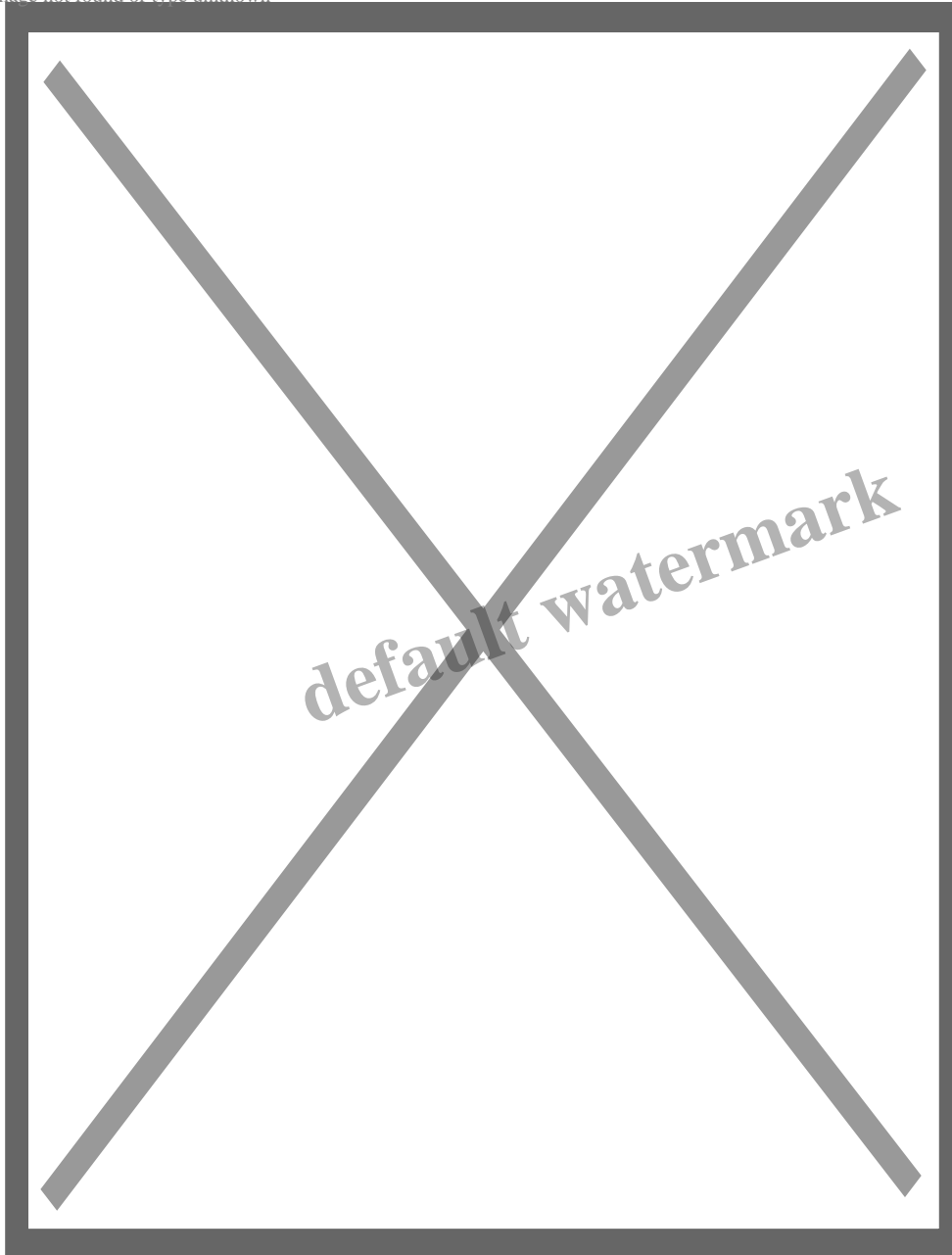
Indeed, bamboo has been used in a large variety of [instruments](#) including flutes, mouth organs, saxophones, trumpets, drums and xylophones. Another grass, the giant cane, also produces the [reeds](#) needed for woodwind instruments like saxophones and clarinets.

A bamboo guitar hit the market in 2000, produced by [Yamaha](#). The [Yamaha Corporation](#) started life in Japan in 1887 as Nippon Gakki Co. Ltd, making [reed organs](#) and began making pianos in 1900. It's

now reputedly the world's largest manufacturer of musical instruments.

Yamaha's FG-B1 guitar had top, back, sides, neck and braces all crafted from bamboo, resulting, according to Yamaha, in a totally new sound that is remarkably bright and clear.

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*Yamaha advert from 2000*

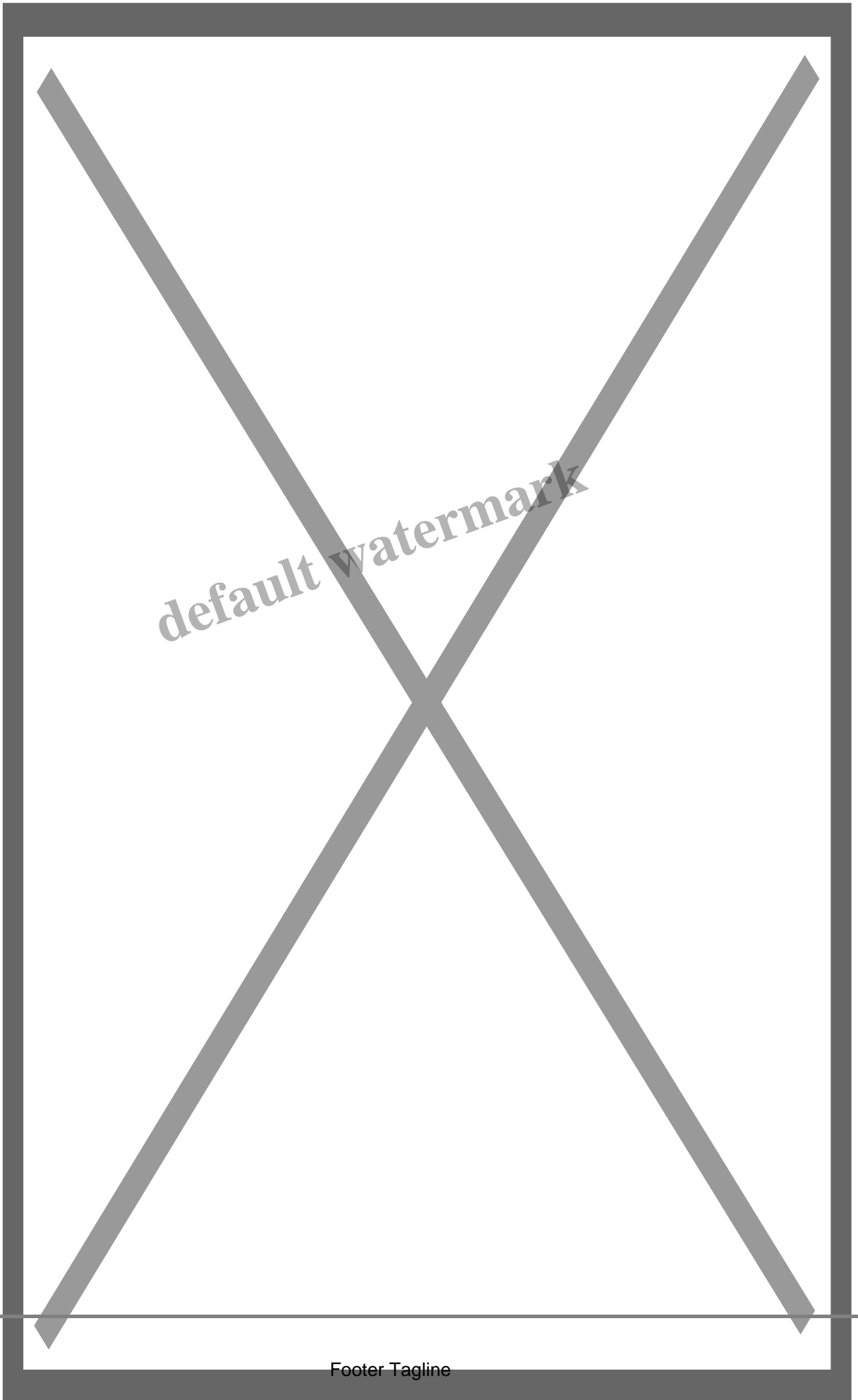
Bamboo's straight grain gives it powerful acoustic properties, and its warp resistance makes it a very stable building material. Yamaha used three- to five-year-old Bamboo plants about 6 inches in diameter. The bamboo is sawn into strips, bonded longitudinally, and laminated in three layers, with the inner layer at 90 degrees to the outer ones for rigidity. This laminate is then crafted using traditional guitar making techniques. The only non-Bamboo parts of the finished guitar are the fingerboard and bridge.

According to the [Yamaha Acoustic Guitar Archive](#), the FG-B1 was made between 1999 and 2015, and the acoustic-electric version, the FGXB1 continued to 2017. This had bamboo top, back, sides and neck, with rosewood fretboard and bridge. A version with Nato for the neck instead of bamboo, the FGB1N was made between 2000 and 2003 (pictured below). [Nato](#) is an abundantly available tree, and the name covers several species in the genus *Mora*, none of which are considered to be of conservation concern. It is regarded as an economical alternative to Mahogany, and is sometimes referred to as "Eastern Mahogany".

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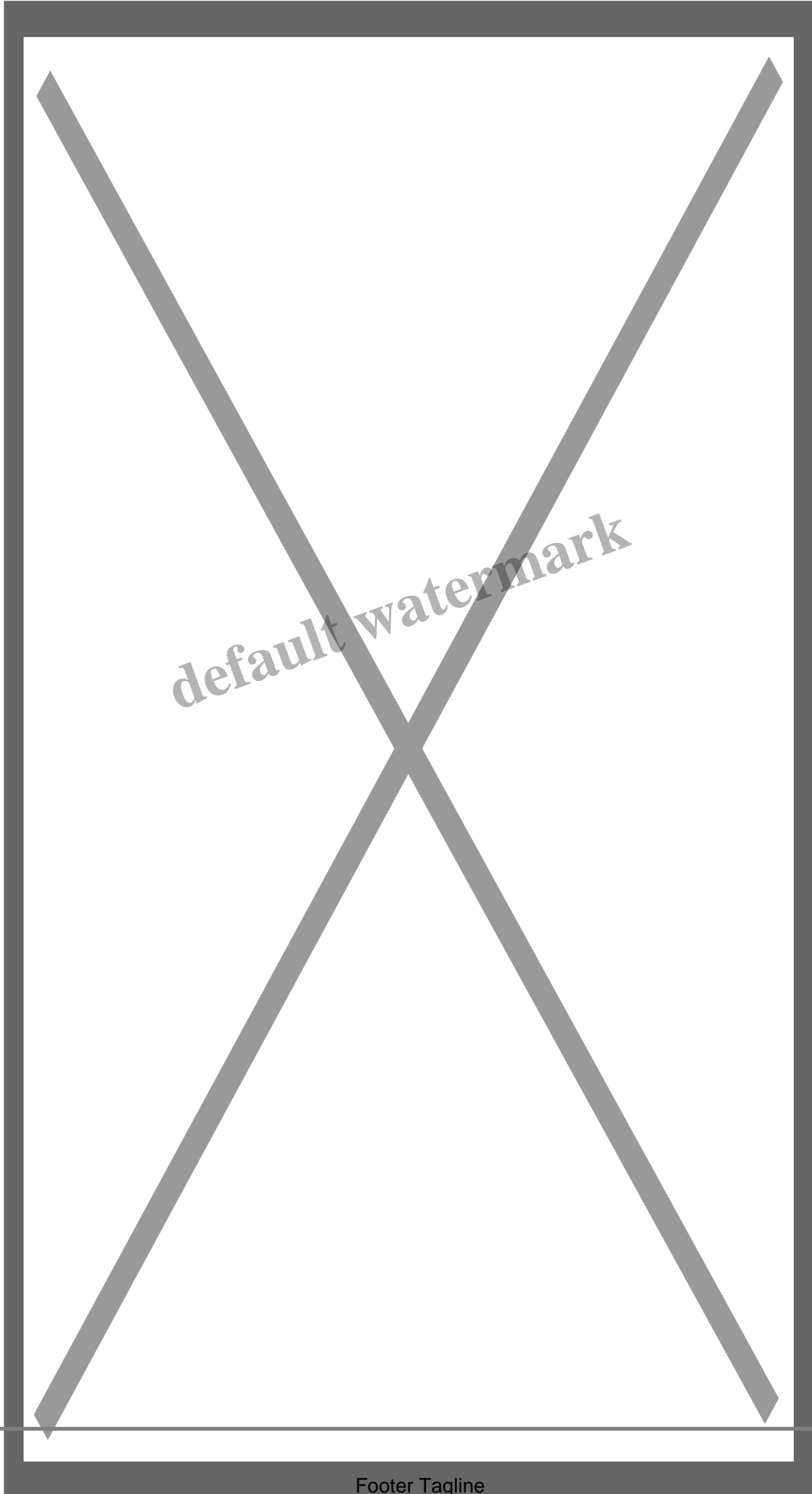
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Yamaha FGB1N (2000)

## Did bamboo do it?

Yamaha no longer make bamboo guitars, presumably deciding that the bamboo experiment was not worth continuing. The guitar received widely varying reviews, with some people loving it and others panning it mercilessly. Most commentators appreciated the environmental significance of using bamboo, most thought the guitar was well-built, and some thought that it actually made a very nice looking and sounding guitar.

According to a post in [mylespaul.com](http://mylespaul.com), when the guitar first appeared “Experts were taken aback by the prototype’s loud, resonant sound, its balanced tone with excellent sustain, and its rigid neck.” The post also suggested that “Bamboo has a rich tone and a warm look”.

Another post on [Gearspace](http://Gearspace) effused: “These guitars are superb. Bamboo is a percussive wood that gives a clear warm tone. The manufacturing quality on the early guitars is very high, and they sound beautiful.”

The same post, however, suggested that Yamaha thought they were onto a winner. But, “Funny thing is: Nobody bought it. ‘Cos guitarists tend to be quite anal about their hardwoods and obscure grains.”

## Bamboo’s not for you?

Indeed, the negative reviews all panned the sound of the guitar, even if they liked how it looked. In contrast to the comments above, these folks thought the guitar lacked tonal character and resonance. Michael Stroh, writing in the [Baltimore Sun](http://Baltimore Sun) commented: “Make no mistake: The Yamaha plays and sounds decent for a bamboo guitar. Whereas you would expect such an instrument to sound horrible, this one just sounds — well, like you’re playing bamboo.”

One factor feeding into the negative views of the guitar’s tone is the fact that the top is laminated — there’s a general perception that solid wood tops generally sound much better than laminated tops. But as we’ve seen in an earlier [post](#), laminates are increasingly being used to produce less-expensive but still pretty damned good guitars. Maybe a mix of bamboo back and sides and a solid wood top would have satisfied the critics more.

Indeed, about 10 years ago, Australian guitar maker [Michael Williams](#) tested out that option and built a guitar with bamboo back and sides and a spruce top. He did all sorts of tests on the material and documented the build in a series of posts on his website. And he was pretty happy with the results.

## A place for bamboo too?

My Yamaha FGB1N made in 2000 is certainly a lovely instrument to look at and plays very nicely too. Maybe can’t compete with the depth of tone of a Martin D28 (but then what else can?). Matched against other similar guitars it does pretty well, though. Maybe, more generally, the bamboo guitar suffers from a preconception that bamboo is going to sound crap, regardless of how individual instruments actually perform.



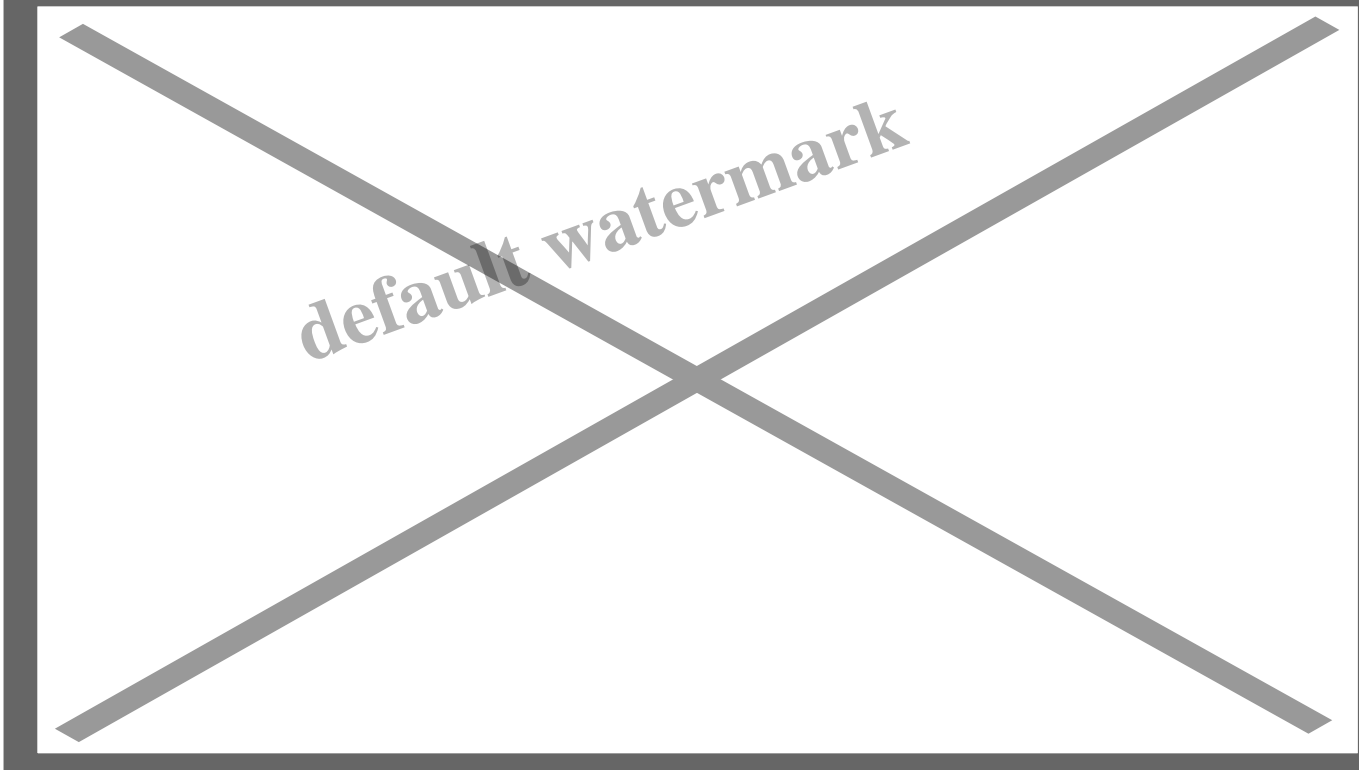
And maybe the Yamaha bamboo guitar was simply ahead of its time. Other guitar makers such as [Tanglewood](#) and [Luna](#) now offer bamboo guitars. The reaction to Yamaha's attempt to create a guitar using a sustainable material reflects a recurring theme in the Nature of Music – even if guitar makers see the need to change the materials they use, the guitar-buying public won't necessarily be swayed away from the more traditional woods.

But we've also seen that this is changing, and that increasing numbers of people are open to considering new things. Yamaha's experiment with bamboo is being replicated with a wide range of other materials, and the future is looking diverse!

The last word on the bamboo guitar has to go to a comment in the Mylespaul.com thread:

***“Looks cool, just keep them away from Pandas”***

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Source: [BBCchannels](#)

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