

The aristocratic satinay

7 May 2021

Fraser Island is a beautiful place. It is the world's largest sand island and vegetated dune system. I had the opportunity to work on Fraser Island in the mid-1980s and have had several recreational visits to the island over the years. I still pinch myself these many years later on how fortunate I was to spend two weeks bush-bashing through the satinay (*Syncarpia hillii*)-brush box (*Lophostemon confertus*) forests while doing regeneration surveys. In all my 33 years working as a forester, these are one of the best forests I have experienced. Satinay is easily recognisable on Fraser Island for its tall, straight stem with heavily fissured bark. It is best seen at Pile Valley, near Central Station. Satinay grows to enormous sizes.

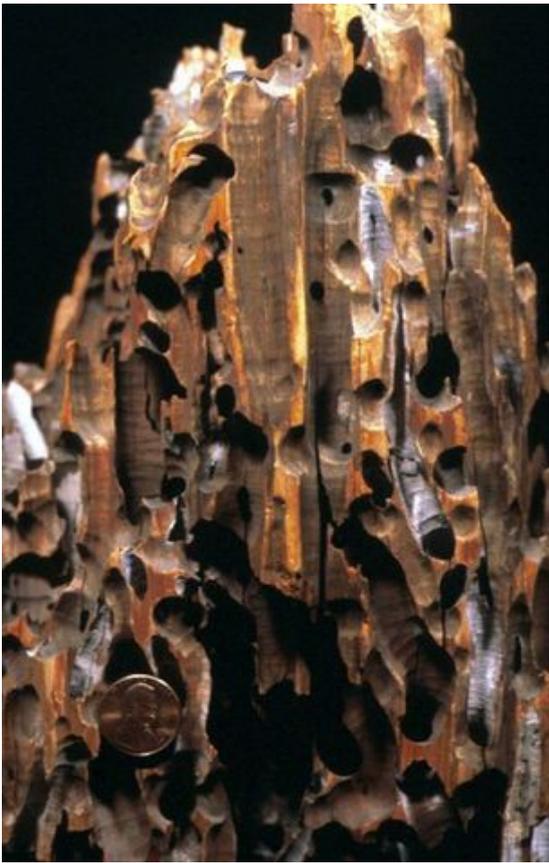
While the island is now a national park, it has a long and rich history of forestry management. By 1925, most of the island was set aside as state forest. Loggers overlooked the magnificent satinay trees as they were regarded as too soft for hardwood and too hard for softwood. Once forest operations moved from the softwoods to hardwoods, satinay trees began to be harvested. Originally satinay was known as Fraser Island turpentine to recognise its sibling in NSW and Qld.^[1] It was, however, quickly condemned by timber-getters because planks cut from it were found to warp and shrink quickly, and sawmillers refused to handle it. This was because the tree is known to retain high moisture content when first felled. Consequently, "these alleged drones of the woodlands to make way for a new race of blackbutts" were ringbarked and left behind.^[2] Unfortunately, "probably hundreds of thousands of super feet were destroyed and even burnt" because of its supposed uselessness.

A sort of silvicultural remorse drove the Forest Department to technological action. They decided to investigate how satinay could be used. It was soon discovered it was necessary to air-dry the wood in the shade, instead of in kilns. It seasoned down normally to an excellent timber with an astonishing variety of uses. At the Brisbane Annual Show in August 1929, the Forestry Department provided a realistic display of the "Valley of the Giants" – the large satinay trees found on Fraser Island. The display included furniture made of satinay to promote its appeal. The close texture of the satinay produced a beautiful lustre when polished. There was also a name change to disassociate it from Fraser Island turpentine and its reputation as an inferior timber. It was rebranded as satinay, named after the satine wood of the French Guiana which it resembles.



Satinay floorboards

Suddenly, satinay became popular, finding its best use in high-class furniture, panelling, polished floorings, and fittings. Brisbane's State Insurance building, built in the early 1930s, adjacent to Anzac Square, used 80,000 super feet of satinay for decorative flooring and other purposes.^[3] Half the houses that were built in Brisbane in those times supported polished satinay flooring. It was also used, for instance, at the Brisbane abattoirs, because of its toughness in the runways for cattle.



The shipworm in a modern wharf pile. Notice the coin in the bottom left hand corner. From By Wilson44691 – Own work, Public Domain

Satinay quickly became the modern counterpart to its namesake, the brilliant satine from French Guiana, which found fame in some of the Louis XV and Louis XVI periods' finest furniture.

Satinay's main redeeming feature, however, is its resistance to marine borers. Combined with its straight form, it was ideal for marine piles. The shipworm (*Teredo navalis*) has been a problem ever since humans first went to sea.^[4] It causes enormous damage to wooden ships. The best solution, which became standard during the 18th century, was to clad them in copper sheeting. It was an expensive solution for naval vessels and merchantmen, but every ship still needed a skilled ship's carpenter to deal with the leaks and creaks.

Iron replaced wood by the late 19th century and ships were safe from teredo. However, the underwater furnishings of a maritime economy – jetties, wharves, piers, dry docks – continued to be built of wood, particularly in newly settled regions where wood was still plentiful.

A maritime economy based on wood used a lot of timber. Venice, for instance, consumed all the forests in its hinterland constructing its naval empire. The British Empire was also a maritime powerhouse. By the time James Cook first saw the Australian coastline in 1770, the British navy had consumed most of southern England's forests and relied on timber from the Baltic and North America. Cook thought the tall trees of Australia, such as Norfolk Island's pines (*Araucaria heterophylla*), that grow to a height of 65 metres, and other Araucarias would make ideal masts – though as it turns out, they were too brittle for that use.

Enter satinay, and it quickly became very popular in the 1920s and 30s for marine piles when the original timbers were up for replacement. In the early to mid-1930s, the Suez Canal was re-lined with satinay logs – some 50,000 of them, according to Fraser Island sources.^[5] Piles were also sent to rebuild the London docks in the 1930s. The piles for the Urangan pier at Hervey Bay were satinay and lasted 100 years.^[6]



The Urangan Pier. Photo courtesy of Damien Bergmann.

Another use for satinay was developed during WW2. A tobacco pipe factory was established in Sydney. It needed a replacement supply of timber caused by the sudden stoppage of French briar imports. CSIRO experimented with various timbers, and satinay proved to be the most promising.^[7]

Satinay was also a favourite for the butts of fishing rods and made good house stumps, fence posts and survey pegs.



Satinay tree

Satinay developed its own romantic history. It was transformed from something of no use into one of the most famous of cabinet woods. Connoisseurs furnished their homes with period suites made from satinay. It also supplied thousands of tonnes of the required length for piles in saline waters; thousands of houses boasted polished satinay floors; and thousands of smokers lay their satinay pipes at the feet of Lady nicotine.

Satinay eventually took its place among the aristocrats of timbers around the world. Today its only use is to stand as a sentinel over a rich forestry past, admired by thousands of tourists who visit Fraser Island each year oblivious to its history, its unique features, and great uses across the world. That is because the Queensland Parks and Wildlife Service, with the imprimatur of the current government, is happy to remove all reference to forestry activities on the island and the part that these activities played in the economic and social development of south-east Queensland.

^[1] Satinay is closely related to turpentine *Syncarpia glomulifera*

^[2] “Annual Arbor Day Article #4” Murrumbidgee Irrigator, Tuesday 27 July 1937, page 4. The reference to blackbutt refers to the main commercial hardwood species on Fraser Island – *Eucalyptus pilularis*

^[3] “Satinay is a valuable Australian timber” Northern Star Wednesday, 13 September 1939, page 11

^[4] It is commonly called the shipworm, though it is not a worm, but a bivalve mollusc. It lives very widely in salt-water environments, wherever there is wood to feed on. *Teredois rapacious*, and it seems to strike suddenly. It ate into the Dutch dyke system several times during the 18th and 19th centuries. In 1917 it appeared in San Francisco, where it caused \$15 million worth of damage to the harbour fixings. Although a salt-water animal, it can survive in brackish water, but the salinity level is important. One theory is that it may attack after a drought, when salinity rises following a drop in freshwater flows.

^[5] “Turpentine piles for London” Daily Mercury, Mackay Wednesday 2 December 1931, page 12; “Trip to Fraser Island” The Telegraph, Tuesday 1 January 1935, page 7. On landing at the jetty at White Cliffs, reporter Jack Wilson saw “thousands of satinay piles [to be] shipped to Suez and Tilbury docks from this obscure little spot”

^[6] The Urangan pier was built in 1917 to export sugar, coal and timber from the Wide Bay hinterland. It had an impressive length of 1124 metres. At one time, Urangan became the busiest

coal port on the eastern seaboard, shipping more than 100,000 tonnes of coal per year. More than 1,000 x 22.5 m long Satinay logs were used to build the pier. The logs were hauled into the water by bullock teams, and towed by boat to the pile driver – a task so onerous that the workers could only manage to erect three piles per day. The pier head was dismantled in 1985 and today 880 metres remains. In 2013 the original satinay piles were replaced with steel piles in plastic sleeves and fitted with sacrificial anodes. So much for the use of natural and renewable materials which are no longer available because the public has allowed politicians to prevent any valuable use of Fraser Island’s unique forests, which today are condemned to gross mismanagement. For an example of this mismanagement see my post on the 2020 Fraser Island fire – <https://www.robertonfray.com/2020/12/04/fraser-island-afire-from-stem-to-stern/>

^[7] “Fraser Island Satinay” Maryborough Chronicle and Wide Bay and Burnett Advertiser, Tuesday 3 December 1940, page 4.

Two articles written by Robert that covers his time in Urunga and Coffs Harbour; the first details Sid Burke, his son Jack Burke and Pine Creek and the second is about dealing with “experts”. I have many stories of dealing with “experts” but this a long talk and a bottle of port.

<https://www.robertonfray.com/2021/04/02/a-strange-name-for-a-tree/>

<https://www.robertonfray.com/2020/08/30/koalas-head-lice-and-the-great-green-deception/>