

EXAMPLES OF CYPRESS SAPWOOD RESISTING ATTACK BY THE COMMON HOUSEHOLD WOOD BORER (*ANOBIUM PUNCTATUM*) IN NEW ZEALAND



A Report Prepared by Dean Satchell for the NZS 3602 Standards committee, 21st February 2017.

This report documents examples showing cypress sapwood timber to have resistance to household borer, both in internal applications and those protected from weather but exposed to exterior or ground atmosphere.

Among timber users cypress sapwood is well known for resisting attack by house borer in New Zealand.

This report documents some examples where cypress sapwood is in service in internal situations without any sign of borer. The situation in the house, the length of time the timber as been in service and the region are all documented, along with the name of the person and contact details. These examples can be verified by contacting the individuals who have supplied the information.

Example 1: Gabrielle Walton, Bay of Plenty

486 Reid Rd, RD 7, Te Puke, Bay of Plenty

Phone 0276644987

Sapwood Cypress in use as rafters, 12yrs interior use, no signs of borer or decay.





Example 2: Tim Rose, 608 Eltham road, Taranaki

Phone 022 1628543

Macrocarpa milled in 1982, was filleted and dried for 1 year then block stacked for 2 years under cover before I built a house and replaced 3 walls of the old Mangatoki general store goods shed in 1985/86.

There is some sapwood in the shed framing and in the ceiling of the upper floor of the house. There is no borer or rot in any of the Macrocarpa.

When I sold the house at 100 Conway rd. Eltham the new owners employed a building inspector to do a report. He was very thorough spending well over 2 1/2 hours there checking under floor in the roof cavities and putting his periscope in the walls where he could get access, but could find no fault and said it was the best building of its age he'd ever inspected in 25 years in the business. The old native timbers in the adjoined cottage and much of the furniture has borer as does the native timber floor, framing, paneling and stored furniture in the shed at Mangatoki.



Macrocarpa sapwood showing bark encasement. No borer present.



Macrocarpa sapwood showing bark encasement. No borer present.



Macrocarpa sapwood removed from building for inspection. No borer present, just nail holes.



Lawsons cypress sapwood. No borer present.



Cypress framing showing sapwood with bark encasement. No borer present.

Example 3: Roger Gale, 455 Puhata Road, Kaitaia
09 409 3807

Date: 2017-02-02

From: "Roger Gale" <roger@treeskills.co.nz>

I have used sapwood cypress as framing in our toilet.
20 years later, no degrade or borer.

**Example 4: Toon Welvaert, 22 Beach Road, Urenui, North
Taranaki**
06 7523313

Date: 2017-01-28

From: Toon Welvaert <toon.welvaert@gmail.com>

I have several pieces of furniture made out of Cypress
leylandi, all untreated and containing sapwood. These pieces
are 10 to 15 years old and don't show signs of borer in the
sapwood.

**Example 5: Peter Davies-Colley, 220 Houto Road
Titoki, Northland**
09 433 1718

Date: 2017-01-26

From: "Peter Davies-Colley" <treepepl@xtra.co.nz>

We built our Titoki house over 30 years ago. There is sap
macrocarpa with no borer present despite having some
antique furniture in the house which had been affected by
borer.

**Example 6: John Fairweather, 180 Cavendish road,
Christchurch**

03 3520477

Date: 2017-01-26

From: "john fairweather" <johnrobyn@netsurf.co.nz>

I have checked all of our macrocarpa ceiling in our living and dining room, installed for 14 years.

There are some boards with distinctively lighter colour which I take to be sapwood.

On none of these boards, nor the others, are there any signs of borer holes or dust. We have never seen borer dust on the tiled floor, coloured mildly dark green which would show up dust very well.

We burn wood and carry in potential insect sources.

**Example 7: Matthew ter Borg, 70 Hill Road, LOWER
HUTT**

027 434 1663

Date: 2017-01-27

From: Matthew ter Borg <mat.arch@xtra.co.nz>

Attached are photos of sapwood macrocarpa installed in my house in 2010. No borer present in any macrocarpa. This is in a house that was built in the 1930's which has high levels of borer in the rimu used extensively throughout the house. The macrocarpa was not treated.







**Example 8: Tim Rose, Wekaweka Road, Hokianga,
Northland**

Phone 022 1628543

Tim Rose <tjrose5@yahoo.com>

Date 15 February 2017 8:02 PM

Macrocarpa sapwood Sunhillow farm Wekaweka rd.

On the 14th February 2017 I went to my brothers old home with him. Situated up the wekaweka valley in Northland the rainfall is 2500mm at this location.

I photographed the sap wood. There is Macrocarpa sapwood in the upstairs floor erected 1980 and in the downstairs bathroom and bedroom floors erected 1990. There is no decay, rot or borer present in the macrocarpa. Locally milled Rimu (from the neighbouring farm), was also used in this house. The rimu got a lot of borer in the filleted stacks and so only the best non attacked rimu was used for paneling (installed at the same time as the macrocarpa). The rimu has since got some borer.



Macrocarpa upstairs floor from below showing sapwood



Macrocarpa upstairs floor from below showing sapwood



Macrocarpa floor over joists showing sapwood



Rimu panelling showing borer



Old Rimu furniture showing borer

**Example 9: Mike Cole, 41 Wood Street Kakaramea,
South Taranaki**

06 2738044

Mike Cole <mike.celeste@xtra.co.nz>

14 February 2017

Subject: cupressus macrocarpa sapwood

Below are photos of 2 dwangs that I have just cut out of the hut on the farm, and ripped through the sapwood to look for borer. This was built in 1989 and the walls clad in batten and board macrocarpa . There is no building paper and next to no eaves so the walls have been occasionally wet ever since. There is no borer to be seen. In no 1 there is a tiny amount of discolouration where a bright zinc cladding screw went in and was pretty rusty but still holding. My budget didn't stretch to copper or stainless or heavy galv screws in those days.

I also had a good look under Celesta's studio at home here. This was built in 1992 as a sleepout, all out of macrocarpa. There are waney edged boards in the floor joists so have a large amount of sapwood. Until 2016 this floor frame sat on 100x100 tanalised posts lying on the ground. Last year we put it up on piles and lined the building with plywood. The timber it was built from was 2nd grade leftovers from milling orders to sell, so there was a large amount of sapwood in the building. We removed quite a few cladding boards to put in larger windows and these boards were very sound. All the framing and floorboards were 100% sound. I would have no hesitation to use macrocarpa sapwood inside a building again and am sure it would have equivalent durability to H1 treated pine.





**Exampe 10: Roger Brand, 251 Pinehill rd.
Waiotemarama, Hokianga, Northland**

Roger Brand <brand.r@xtra.co.nz>
12 February 2017

Regarding use of macrocarpa in our house and outbuildings over the past thirty years and the pleasing absence of any sign of borer attack or rot; either in the sapwood or heartwood. The house was built in 1987 and the sheds soon after.

The evidence is very clear that macrocarpa does not need any form of treatment to preclude borer attack. This is in direct contrast with the borer that continually infests our rimu and imported oak furniture, much to my wife's horror!

Where rot and possible insect infestation does occur is with timber that is in a damp or perpetually wet situation, i.e as footings in wet ground or attached to poorly drained or blocked guttering. I try and avoid both of these.



6" x 1" macrocarpa T & G flooring



6" x 2" macrocarpa rafter showing sapwood



8" x 4" beam with rafters showing sapwood



6" x 1" sarking / interior wall cladding showing sapwood



Interior shelving above sarking (with evidence of household activity but no borer)



4" x 1" door surround of exterior washhouse (under partial cover, but note water stain as result of heavy wind during storms)



6" x 2" rafter for exterior shed. Again note water stain from rain blowing in during storms; no rot or borer seen.

Outside shed erected in 1990 and clad with 8" x 1" *C. lusitanica* rough-sawn boards milled from 30 year old trees that were part of a shelter belt either side of a driveway in Okaihau, Northland. The wall faces north, both into the sun and major storm. The timber has had no dressing or treatment.





Detail of footing showing no rot.

Additional information supplied by Tim Rose, 15 February 2017:

I've taken further photographs showing further evidence of Macrocarpa sap wood not being susceptible to house borer or rots since the home was built in 1987 and the sheds built soon after.

The house is built from Macrocarpa. Every room I entered had clear examples of sapwood in the Macrocarpa flooring and in the dining area panelling with clearly evident sapwood.

In one shed the rafters have sapwood on the waned areas and the main door entrance beam was a 50 year old Macrocarpa thinning in the round.

The other shed in Roger's photographs has a Macrocarpa external wall.

There is no evidence of any borer or decay anywhere in the Macrocarpa except in the one external board that is in contact with the ground on the shed wall (that Roger photographed). Yet the discarded piece of Kauri and Kaihikatea furniture has plenty of borer. Roger and Rachel note that they have discarded a number of pieces of rimu and oak furniture over the years due to borer infestation.



Macrocarpa floor over joists. Piles under floor range from less than 300ml to 600ml above ground



Macrocarpa floor over joists showing sapwood



Macrocarpa floor over joists showing sapwood



Macrocarpa beam from 50 year old tree, showing sapwood with no borer



Macrocarpa beam from 50 year old tree.



Macrocarpa framing in shed showing sapwood, no borer present.

Example 11: Murray Grant, Whangarei
09 2363727 ext 702

Murray Grant <sales@macdirect.co.nz>
15 February 2017
Subject: lusitanica
To: Dean Satchell <dsatch@gmail.com>

I built this house in Whangarei in 1999. Ceiling sarking was all 2nd grade lusitanica cypress with sap. No evidence of house borer being present in February 2017.



**Example 12: Don McGregor, 169 Torehape Road West
Ngatea**

07 8677174

Date: 2017-02-02

From: Don McGregor <donmcgregor169@gmail.com>

This shows T&G Macrocarpa used as a ceiling under a verandah in a large house built in an old style in 1996. It is a mixture of heart and sap. There is no evidence of borer being present. Certain defects such as tight knots were considered acceptable for this application. Location: Kaihere, elevated position western side of Hauraki Plains.





**Example 13: Kevin Thomsen, 620 Hendley Road,
Patoka, Hawkes Bay**

March 1 2017

06 844 3196

<kev_bev@xtra.co.nz>

Macrocarpa was installed in my house 30 years ago as panelling. This included sapwood as it was decided there was no need to exclude it, being protected from the weather. The trees were shelterbelt trees and fluted, so excluding sapwood would have been difficult anyway.

Tongue and groove panelling was installed on a porch that is open to the outside at one end but out of direct sunshine. It is coated with polyurethane. There is no sign of any borer attack on any of the three areas totalling approximately 45 sq.m.



Another area of panelling inside the house also has no signs of borer present.



If borer was going to be a problem I am sure it would have shown up in this environment. We have still got some of this timber in rough and dressed form stacked in a shed. The Monkey Puzzle timber (sap and heart) next to it was riddled with borer and got dumped.