

1 RED GUM Crafts of Necessity

Historical Introduction

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The River Red Gum, *Eucalyptus camaldulensis*, is the most widespread and one of the best known species of gum tree in Australia. The picturesque, spreading tree grows in most parts of the continent on the inland side of the Great Dividing Range but not in Tasmania. The common name reveals that this is a tree of watercourses and refers to the dark red colour of the heartwood. Freshly sawn timber soon changes from red to dark grey when exposed to the weather.

Most red gums grow along rivers and on floodplains, creating ribbons of grey-green across the arid inland. The tree thrives in a wide range of climates but in low rainfall areas relies on high water-tables or seasonal flooding. The tree tolerates long periods of flood and needs to be inundated every five to ten years to reproduce and maintain good growth. This connection between flood, creek and tree is reflected in several different Aboriginal languages in which single words have been recorded such as *yarrowee* (meaning, gums growing in water), *bealiba* (red gum tree creek) and *warracknabeal* (flooded gum tree).

Red gums are perfectly adapted to the seasonal flood and trickle typical of many Australian creeks and rivers: for much of its history that was typical of even the giant River Murray. Whole forests of red gums shade that ancient river.

There are also red gums standing in open forests on the slopes of South Australia's Mount Lofty Ranges and these once extended across the Adelaide Plains. The language of the original people, the Kaurna, reflect that major landscape feature – *karra* (red gum), *karrawirra* (red gum forest), *karrauwirraparri* (river of the red gum forest, which was renamed the River Torrens) and *karraundo* (the locality of Hindmarsh, a suburb built beside the Torrens). This 'park-like' red gum scenery greatly impressed British and German settlers who arrived from 1836 onwards after the formal founding of South Australia in 1834.

The wide distribution of the River Red Gum species is matched by the impressive size and shape of individual trees. Red gums may grow to a great age, as much as a thousand years. The most admired tree is massive and possibly centuries-old with a huge bole and large arching branches. The impression of strength and age is balanced by the light, changing colours of the bark – smooth white, grey, buff – and the thin, dancing leaves of grey-green.

Such a durable, generous and universal tree has been put to good use for hundreds, and possibly thousands of years by Aboriginal and then European inhabitants. Indeed, at each successive frontier beyond the east coast of Australia, white settlers learned many uses and techniques from the established Aboriginal residents. For example, they learned how to strip intact the large sheets of bark and shape them while still green, Aboriginal families propping up the bark as the walls of wurleys, Europeans fixing it in place as roofing.

Many a pioneer took shelter within the living walls of large old fire-hollowed trees: some adapted them as primitive houses for the initial years devoted to land clearing, farming or shepherding. 'Herbig's tree' near Springton in South Australia is preserved as the first home of the Silesian immigrant farmers Johann Herbig and his wife and two children from 1855 to 1860; 'Horrocks' tree', which flourishes further north at Penwortham, functioned as extra living space and as a fireplace for the pastoralist John Horrocks in the 1840s.

These pioneer householders were simply perpetuating an ancient Aboriginal use of the living shelters. In parts of the Mount Lofty Ranges, such as the Eden Valley and Angaston districts, there were so many burnt-out, hollow red gums, with openings usefully facing east or north, that an anthropologist suggested that they may have been deliberately created for the excellent shelter they provided.

The living tree had many other functions, apart from the use of fallen timber for firewood and spears and the seeds and resin which were prepared as food and medicine.

One of the most common and enduring relics of an age-old Aboriginal industry is the 'canoe tree' and 'shield tree'. Standing trees, many of them still growing, bear the long, oval scars of canoes or shields which were cut and shaped from the sapwood.

On the Angas Plains in the Strathalbyn district near the end of the Murray there is a small forest of artefact trees. Their significance was well-recognised by the early white settlers who left the group intact.

Many canoe trees may be found along the Murray itself, including one huge specimen near Chowilla Station close to the S.A./N.S.W. border. This towering gum also attracted the attention of a member of the first party of Europeans to journey down that river. On the far side of the canoe scar a member of Charles Sturt's pioneering exploration of the rivers Murrumbidgee and Murray in 1829/30 inscribed the letters, SME 20 (Sturt's Murrumbidgee Expedition, day 20).

It was not until the 1830s and 1840s as the British probed inland beyond the coastal mountains and southwards and an independent colony grew outwards from Adelaide that red gums were encountered in large numbers. Consequently, it was not given a botanical Latin name until that period. At the same time immigrant British and German craftsmen-farmers began to fashion buildings, furniture and other structures from the solid timber.

Given the wide separation of the Australian colonies and the extent of red gum distribution it was inevitable that the same species should be given two quite different botanical names. In 1847 Diederich von Schlechtendahl named it *Eucalyptus rostrata* (because of the rostrum or beak on the cap of the unopened bud). This name continued to be used until as late as the mid twentieth century, causing considerable botanical confusion as the species had been previously named *Eucalyptus camaldulensis*.

In 1832 Frederick Dehnhardt gave that name to a forty foot red gum he tended as head gardener in the famous Italian garden of Francesco Ricciardi, Count of Camaldoli. Scientific precedence thus gave this distinctively Australian tree an Italian epithet while botanists debated over its early appearance in that since-vanished garden.

J.B. Cleland tracked down the most likely sequence of events. In 1817 John Oxley led an exploratory expedition inland from Sydney to the River Lachlan. In common with most formal, government-sponsored expeditions the purpose was both scientific and economic and members kept detailed records and collected specimens of the wealth of flora and fauna they were delighted to discover. Charles Fraser, Sydney's new Superintendent of the Botanic Garden, accompanied the expedition. One of his assigned tasks was to collect plant material for Earl Bathurst, Secretary of State for the Colonies, and for the Austrian Emperor.

Some of Fraser's plant collection eventually found its way to Italy and by 1822 a River Red Gum seedling tree was in vigorous growth in the garden in the hills behind Naples.

The builders, engineers and craftsmen who began to use red gum timber in the 1830s brought to the task both old world and new world techniques. The products of their work reflected the traditions and prevailing styles the immigrants brought with them from their home countries. However, the character of the timber and the peculiarities of the Australian environment dictated an adaptation of established techniques of timber getting, preparation and use. Many of these colonial techniques had been developed on a trial-and-error basis as other eucalypt species were utilised by a previous generation of convict- and free-settlers in New South Wales.

The 'old lags' from Van Diemen's Land (Tasmania) and New South Wales were regarded with darkest suspicion by the free-settler South Australians but they provided an invaluable source of bush expertise, notably in the handling of what seemed to be impossibly difficult native timbers.

One of the biggest disappointments of the First Fleeters had been the poor building quality of the Sydney red gum (*Angophora costata*) which grew most commonly around Port Jackson. Fortunately, they soon discovered eucalypts and learned the proper handling and range of uses for them.

The main lessons learned were how to efficiently cut and shape the extremely hard timber, how essential it was to season the green wood (which contracted alarmingly in length and circumference), and how to make best structural use of their great strength, durability and even incombustibility.

The tools and some of the methods of timber cutting, introduced within days of landing, persisted for well over 150 years. Sawpits were dug to which convicts wrestled the heavy lengths of timber. Pits were the height of a man, the same width and about 20 feet long. The log lay lengthwise along the pit, supported on smaller cross timbers. With practice and skill, this method processed large numbers of logs into usable slabs and planks.

Despite the introduction of mechanical saws and milling machines after 1838, the traditional sawpit continued in use, especially at the site of big timber forests such as River Red Gum. In parts of Victoria and South Australia an extensive red gum logging industry developed towards the end of the nineteenth century, and sawpits were used as temporary 'mills'. The timber was too long and heavy to handle over a bench. Vast numbers of trees were felled, rolled to a nearby pit and sawn on the spot. When all the tall trees were felled, the mill moved on.

Two men did the sawing, one standing below the log in the pit pulling downwards on the tiller of a long, steel saw, the other man astride the log guiding the saw with the handle from above. This more skilled worker was called the 'top-notcher', which is now used to mean the best of anything. The sawdust-choked slogger below was called the 'underdog', which has also passed into Australian idiom as the loser or expected loser in a competitive situation. No wonder Australians feel such sympathy for the underdog!

The convict workers soon learned to use the heavier, unwieldy timbers as the framework or structural support for the speedy erection of simple buildings with roofs and walls made of lighter and more easily-worked materials. The frames of the convict huts were covered with a matting of slight, wattled (interwoven) branches of acacias, plastered with clay. This Australian variant of the traditional wattle-and-daub method gave the acacia species its permanent common name – wattle. Somewhat later, more durable panels were introduced, reinforced by stronger timbers such as she-oak or native pine, or else panels of brickwork or stone between the timber frames.

Eucalypt was used more lavishly in the slab huts and sheds which often replaced the wattle-and-daub or bark-sheeted buildings. The slabs were placed vertically set into the ground or supported on sleepers or else horizontally, supported by grooved corner posts. These timber or timber-framed buildings became the standard pioneer structures throughout south-eastern Australia in the nineteenth century, even as they vanished from the cities.

To save work and avert decay, whole logs were often used as structural timbers. Again, these methods of construction persisted for many years at the frontiers of pastoral and rural settlement and were used even longer in the construction of sheds and other utility buildings in country areas.

Architects Berry and Gilbert provide a description of typical structures erected in the 1850s at Stone Hut in South Australia's Mid North:

The cattle shelters and implement sheds are splendid examples of early primitive construction. River red gum abounds nearby and timber was selected to provide forked posts which supported roof beams without jointing and fastening. These in turn carried the native timber rafters; all of this construction was rough cut only; sometimes sections would be adzed for a better fit but generally speaking the timber was 'as felled'. Light branches were then placed across the rafters to carry straw thatch. Fresh straw added from year to year built up a considerable thickness which gave character to these structures and provided insulated shelter to the animals using them.

Thus red gum was adapted to an existing colonial style. Newcomers to red gum regions such as central South Australia quickly adopted the colonial techniques and local timbers, at the same time fashioning buildings, furnishings and other structures which, for the first generation at least, faithfully recreated the features and style to be found in their homelands. Generally speaking, such vernacular houses, farm buildings and furniture reflected not the prevailing fashions of European towns, their crafts and architecture, but referred to the rural origins of their builders: the fields of England and Ireland, the hills of Scotland and the forests of Prussia and Silesia. They recreated traditional styles and techniques which were simple, primitive and no longer in use even in their home districts.

Many of these traditional European rural houses and outbuildings, incorporating the Australian timbers and a mix of old world and new world expertise, are still in use in and near the Mount Lofty Ranges and further to the north. Most of them date from the first generation of settlement, from the late 1830s to the early 1860s. One of the best-known districts is the Barossa Valley.

There, many of the farmhouses, including several in the Waldhufendorf (forest farm village) of Bethany are traditional in form; small, timber-framed (using red gum) infilled with brick or stone rubble, with through-passages, 'black kitchens' and high gabled timber roof structures. Farm sheds of mud and stone were strengthened by red gum posts and roof trusses, and there is an impressive red gum slab implement shed.

Similar buildings may be found wherever the German families settled in the ranges, including the towns of Hahndorf and Lobethal. At Paechtown near Hahndorf, handsome half-timbered and brick-panelled houses were built beside outbuildings which were the more primitive form of half-timbered work, infilled with wattle and daub. In the same region, red gum, wattle and daub and stone chimneys were used at the time to create replicas of Scottish crofters' cottages or Devonshire farmhouses.

The heavy red gum timber was crafted as furniture by the same country settlers using similar techniques and tools to those used in building houses. Large adzed slabs became fixed tabletops and workbenches, small slabs were made into seats and stools. Flat pieces of red gum were used in more elaborate furniture such as dressers and bookcases, finely crafted but formal, simple and functional in style. They were austere of necessity, given the structural limitations of the timber and the pressing demands of pioneering.

As later generations moved into mallee country further out the style of housing reverted to the established Australian idiom using similar techniques and red gum when it could be found. Many pastoral and farming properties along the upper Murray demonstrate the varied uses to which red gum was put.

All of these uses of red gum may be described as crafts of necessity. Red gum was used simply because it answered a need for strength and durability and it was near to hand. However, one South Australian pioneer chose to buy land where he saw huge specimens of red gum growing, assuming, correctly, that this must be good country to produce such trees. For the rest of his life, as Frank Potts established his farm, vineyard and winery he took great pleasure and pride in consummate red gum craftsmanship. The full extent of red gum's versatility was demonstrated by this master craftsman.

Potts bought land at Langhorne Creek in 1850 and established 'Bleasdale'. At once he dug a sawpit which turned out red gum slabs for building, lengths for joists, flooring and fencing posts. Roof shingles were split from suitable logs and tools and family furniture were crafted from the same material. When Potts turned to planting a vineyard in the early sixties he continued to adapt to his purposes red gum cut and sawn on the property: a water-pump, aqueduct, bridges, windmills, trellising, twin presses, wine pumps, casks and vats. Alexander Tolmer commented on Frank Potts' talents in his memoirs published in 1882:

One meets with extraordinary characters through life, but I doubt whether his equal could be found. In appearance a stranger would take him to be a poor labourer, with a thin, spare figure and long unkempt hair and invariably wearing his shirt sleeves tucked up. Altogether a most uncouth-looking person, and yet this man is a perfect genius! There is not a single thing mechanical or otherwise undertaken by him which he does not succeed in accomplishing. He is his own builder, carpenter, cooper, smith, shoemaker... As a boatbuilder, there is not a better in the colony.

After handing over the winery business to a son, Potts concentrated on boatbuilding. Using red gum, he built eight sailing boats. Several were yachts which competed in regattas and other boats carried wheat on the nearby Lake Alexandrina. There were also barges, a punt and the paddle-steamers *Wilcannia* and *Bourke*.

His sons perpetuated the Bleasdale red gum tradition. Perhaps the most remarkable of all the red gum structures to be seen at the family's winery today is the massive lever press which was built in 1892, two years after the founder's death. This was used until 1962. The old red gum vats are still in use today.

Red gum's strength and tolerance of long immersion in water were invaluable when it came to constructing wharfs, jetties, stores and other structures essential to the river trade. The period from 1853 to the 1880s was the golden age of navigation on the Murray-Darling river systems. In the 1870s substantial red gum wharfs were built at numerous river ports, including those at Echuca and Morgan.

In the same decade, the extension of railways by colonial governments to those same river towns started a long decline in river shipping as cargoes of wool, wheat and timber were diverted to the capital city ports. Yet the structural use of red gum actually increased as booming railway construction in the 1870s and 1880s consumed vast quantities of logs cut and laid as sleepers.

Government use of red gum in public works was by then well-established. Engineers learnt how to treat the timber to construct roads, culverts, log bridges and laminated arch bridges. Timber was cut from mature trees at the time of year when the sap was not rising. The green timber was immersed in water for two months then dried in stacks to reduce shrinkage. Red gum was at first used mostly for piles in foundations as it was not attacked by white ants.

In laminated arch bridges, such as at Angle Vale, ribs of red gum were introduced in place of deal. The planks were cut with a sweep to the curve of the arch. The ribs carried the roadway beams which in turn supported planking.

Timber was used in bridges because of the cost and delays in importing steel or wrought iron for girders or trusses. In the long run even the red gum timber bridges were more expensive because of the need for frequent repair and most of the major bridges were eventually replaced.

For much of the nineteenth century, as the architectural use of timber declined in the towns and older-settled areas, red gum was much used in public and private engineering and industrial structures. Huge quantities were used, for example, in the underground mines at Broken Hill

This practical use of red gum in Queensland, N.S.W., Victoria and S.A. was summed up in a description made in 1882:

One of our most valuable timber trees of the Eucalypt family... For heavy engineering and underground works its durability is of a very high quality, it resists the white ants to a remarkable degree. Exposed to the weather in the construction of culverts, bridge wharfs, railway-sleepers and fencing posts it is almost second to none.

By the early twentieth century so much red gum had been abandoned after sleeper cutting that a unique industry was established in South Australia simply using some of the remnants.

After the First World War the Tubercular Soldiers' Aid Society established a hostel in the healing dry climate of the Northern Flinders Ranges. The Angorichina Hostel was opened in 1927. The residents did the necessary woodwork. When they discovered a large supply of seasoned red gum sleepers left over from building the unfinished Transcontinental Railway they were spurred to find a use for the beautiful timber. A workshop was fitted out by donors and the timber was cut by Aboriginal workers and brought to the hostel by donkey team. Fine quality furniture was made at Angorichina and sent to Adelaide for assembly and French polishing.

The red gum was worked out by the mid 1930s. The industry came to Adelaide, where elegant furniture has been made at the Angorichina Workshop ever since.

In the meantime, red gum continued to be felled and cut up as railway sleepers. Australian National was still cutting or buying from cutters in the South East until the early 1980s, despite the enormous losses of original forests and ancient trees throughout South Australia.

Finally, regulations under the Planning Act of 1982 introduced the first legal control over land clearance, followed by the Native Vegetation Act of 1985. The large-scale logging of the State's wild red gum forests came to an end. Today most communities view the surviving big red gums as a precious asset and there is an outcry when even one of them is felled.