

= Kauri gum =

Kauri gum is a fossilized resin detracted from kauri trees (*Agathis australis*) , which is made into crafts such as jewellery . Kauri forests once covered much of the North Island of New Zealand , before M?ori and European settlers caused deforestation , causing several areas to revert to sand dunes , scrubs , and swamps . Even afterward , ancient kauri fields continued to provide a source for the gum and the remaining forests .

Kauri gum formed when resin from a kauri trees leaked out through fractures or cracks in the bark , hardening with the exposure to air . Lumps commonly fell to the ground and became covered with soil and forest litter , eventually fossilising . Other lumps formed as branches forked or trees were damaged , which released the resin .

= = Uses = =

The M?ori had many uses for the gum , which they called kapia . Fresh gum was used as a type of chewing gum (older gum was softened by soaking and mixing with juice of the puha thistle) . Highly flammable , the gum was also used as a fire @-@ starter , or bound in flax to act as a torch . Burnt and mixed with animal fat , it made a dark pigment for moko tattooing . Kauri gum was also crafted into jewellery , keepsakes , and small decorative items . Like amber , kauri gum sometimes includes insects and plant material .

Kauri gum was used commercially in varnish , and can be considered a type of copal (the name given to resin used in such a way) . Kauri gum was found to be particularly good for this , and from the mid @-@ 1840s was exported to London and America . Tentative exports had begun a few years earlier , however , for use in marine glue and as fire @-@ kindlers ; gum had even made up part of an export cargo to Australia in 1814 .

Since the kauri gum was found to mix more easily with linseed oil , at lower temperatures , than other resins , by the 1890s , 70 percent of all oil varnishes made in England used kauri gum . It was used to a limited extent in paints during the late 19th century , and from 1910 was used extensively in the manufacture of linoleum . From the 1930s , the market for gum dropped as synthetic alternatives were found , but there remained niche uses for the gum in jewellery and specialist high @-@ grade varnish for violins .

Kauri gum was Auckland 's main export in the second half of the 19th century , sustaining much of the early growth of the city . Between 1850 and 1950 , 450 @,@ 000 tons of gum were exported . The peak in the gum market was 1899 , with 11 @,@ 116 tons exported that year , with a value of £ 600 @,@ 000 (\$ 989 @,@ 700) . The average annual export was over 5 @,@ 000 tons , with the average price gained £ 63 (\$ 103 @.@ 91) per ton .

= = Appearance = =

The gum varied in color depending on the condition of the original tree . It also depended on where the gum had formed and how long it had been buried . Colors ranged from chalky @-@ white , through red @-@ brown to black ; the most prized was a pale gold , as it was hard and translucent . The size of each lump also varied greatly . Swamps tended to yield the small nuggets known as " chips " , whereas the hillsides tended to produce larger lumps . The majority were the size of acorns , although some were found which weighed a few pounds ; the largest (and rarest) were reported to weigh half a hundredweight . Kauri gum shares a few characteristics with amber , another fossilised resin found in the Northern Hemisphere , but where amber can be dated as millions of year old , carbon @-@ dating suggests the age of most kauri gum is a few thousand years .

= = Gumfields = =

Most of the gumfields were in Northland , Coromandel and Auckland , the site of the original kauri forests . Initially , the gum was readily accessible , commonly found lying on the ground . Captain

Cook reported the presence of resinous lumps on the beach at Mercury Bay , Coromandel , in 1769 , although he suspected it came from the mangroves , and missionary Samuel Marsden spoke of their presence in Northland in 1819 .

By 1850 , most of the surface @-@ lying gum had been picked up , and people began digging for it . The hillsides yielded shallow @-@ buried gum (about 1 m) , but in the swamps and beaches , it was buried much further down (4 m or below) .

= = Gum @-@ diggers = =

Gum @-@ diggers were men and women who dug for kauri gum , a fossilised resin , in the old kauri fields of New Zealand at the end of the 19th and early 20th centuries . The gum was used mainly for varnish . The term may be a source for the nickname " Digger " given to New Zealand soldiers in World War I. In 1898 , a gum @-@ digger described " the life of a gum @-@ digger " as " wretched , and one of the last [occupations] a man would take to . "

Gum @-@ diggers worked in the old kauri fields , most of which were then covered by swamp or scrub , digging for the gum . Much of the population was transient , moving from field to field , and they lived in rough huts or tents (which were called " whares " , after the Maori for ' house ') . It was extremely hard work and not very well paid , but it attracted many Maori and European settlers , including women and children . There were many Dalmatians , who had first come to work the South Island goldfields in the 1860s . They were transient workers , rather than settlers , and much of their income was sent out of the country , resulting in much resentment from the local workforce . In 1898 , the " Kauri Gum Industry Act " was passed , which reserved gum @-@ grounds for British subjects , and requiring all other diggers to be licensed . By 1910 , only British subjects could hold gum @-@ digging licences .

Gum @-@ digging was the major source of income for settlers in Northland , and farmers often worked the gumfields in the winter months to subsidise the poor income from their unbroken land . By the 1890s , 20 @,@ 000 people were engaged in gum @-@ digging , of which 7000 worked full @-@ time . Gum @-@ digging was not restricted to settlers or workers in the rural areas ; Auckland families would cross the Waitemata Harbour by ferry at weekends to dig in the fields around Birkenhead , causing damage to public roads and private farms , and leading to local council management of the problem .

= = = Gumdigging methods = = =

Most gum was dug from the ground using gum @-@ spears (pointed rods to probe for gum) and " skeltons " , defined as blade @-@ edged spades for cutting through old wood and roots as well as soil . Once the gum was retrieved it would need to be scraped and cleaned .

Digging in swamps was more complicated ; a longer spear (up to 8m) was often used , often fitted with a hooked end to scoop out the lumps . Scrub was often cleared first with fire ; some got out of control and swamp fires could burn for weeks . Holes were often dug by teams in both hills and swamps ? often up to 12m deep ? and some wetlands were drained to aid in the excavation of gum . As field gum became scarce , " bush gum " was obtained by purposely cutting the bark of kauri trees and returning months later to retrieve the hardened resin . Due to the damage caused to the trees by the cutting the practice was banned in state forests in 1905 . Gum chips , small lumps useful for the manufacture of linoleum , were difficult to find , and by 1910 , the process of washing and sieving to retrieve the chips became common . The process was later mechanised .

= = Gum merchants = =

Gumdiggers generally sold their gum to local gumbuyers , who transported it to Auckland (generally by sea) for sale to merchants and exporters . There were six major export firms in Auckland who dealt in gum , employing several hundred workers who graded and rescraped the gum for export , packing them in cases made from kauri timber .

As early as the 1830s and 1840s , merchants , including Gilbert Mair and Logan Campbell , were buying gum from local M?ori for £ 5 (\$ 8 @ . @ 25) a ton , or trading it for goods . The majority of the gum was exported to America and London (from whence it was distributed throughout Europe) , although smaller amounts were sent to Australia , Hong Kong , Japan and Russia .