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Anointing Oils, Exalted Oils, and Capturing Elusive Scents

Jill Mulvaney, Distiller and Educator



Attars and oils © Jill Mulvaney

As a distiller, product developer, and blender of aromatics, I am always experimenting – re-combining, exploring new botanicals, learning new techniques, and re-learning ancient ones. I recently investigated one of our New Zealand natives, Tarata, or Lemonwood (*Pittosporum eugenioides*) for a project I was presenting at the Botanica 2022 conference, and I learned a little about how early Māori used the resin of this fragrant tree to prepare aromatic anointing oils.

Learning about this process and recreating it myself set off a cascade of other ideas and recalled another experience that had left a big impression on me. Several years ago, I was captivated by a demonstration of one of my fellow distilling comrades where she emulated a distillation technique, like that used by Indian perfumers and distillers, to make an attar.

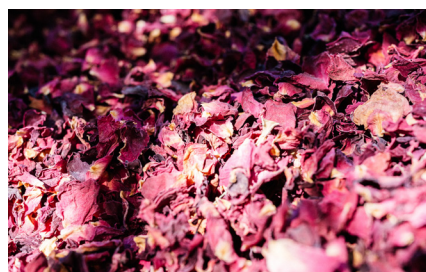
Perhaps I could exalt this oil further, by adding another dimension of aroma – and I could do that with this process adapted from the Indian tradition of making an attar. And so begins this journey. It was the process itself that really captured my interest as well as the potential to create an aromatic and therapeutic oil based on past traditions, using what could be found in my backyard as our ancestors must have done in the past. This was the challenge I set for myself.

An attar (or ittar) is a scented oil made from organic sources, such as aromatic herbs, flowers, spices, barks, and resins. They are either distilled into or blended into a woody base oil – such as Sandalwood (*Santalum album*) essential oil. They are then aged and used as a precious natural perfume for ritual and to anoint. Attars are highly concentrated perfumes

and are considered to be luxurious and precious. In the past, they were offered to the gods and gifted to noble guests.

Being free from alcohol, they are used widely by the Islamic community. They are popular perfumes and have been used therapeutically to strengthen the nervous system, alleviate stress and depression, and reduce food cravings. They have even been mixed with sweets and tobacco products (Al Haramain Perfumes, 2022).

Attars are also used in religious practices. In some Islamic traditions, attars were said to attract angels and ward off demons, while sufis and their followers also used specific attars at different stages of the spiritual journey of advancement (Rhind, 2013).



Rose (*Rosa damascena*), one of the most famous and enduring attars
© Peter Rees Photography

The process of making attars is ancient. They are mentioned in Indian epics as far back as the sixth century, but it's likely their history goes back even further.

A perfume shop dated from the early second millennium BC, found in Pyrgos along the southern coast of Cyprus, indicating just how sophisticated and old the processing of aromatic oils was (Belgiorno, 2017).

The Persians were famous for producing perfumes and took the distillation techniques to new heights, developing techniques still in use today. Perhaps the most famous is the Persian polymath Ibn Sina (known

in the West as Avicenna), who was one of the foremost scholars of the Islamic Golden Age and is said to be the father of modern medicine. Ibn Sina lived from around 980-1037 AD, and (amongst his many accomplishments), he was the first person known to distill attars of flowers – most notably steam-distilling Rose (*Rosa damascena*) – and use these products to develop aromatic formulations for medicines (Norton, 2022).

Both this process and its results are fascinating. I'd like to describe that captivating demonstration, the one that has stayed with me for many years and colored my aromatic dreams. It's still clear in my mind's eye.

Freshly roasted coffee beans had been soaked in water overnight and were placed in the pot of a 10 L (~338 oz) alquitar (a still made of copper), designed primarily to distill spirits but often used to distill hard spices, bark, and resins, as it can run slightly hotter than traditional alembic stills. It was set up so that the distillate would flow directly into a round-bottomed glass flask that had a layer of Sandalwood (*Santalum* spp.) essential oil in it. This looked enticing. The mouth of the flask was sealed so no aromatic molecules would have a chance to escape.



An alquitar still (with an innovative collection set up) in our Alembics Lab
© Peter Rees Photography

The heat was turned on and the distillation began. The vapors pervaded the room, sneaking out of the push-fit joints of the still, but most were trapped in the closed system and made their way into the flask as a combination of hydrosol and aromatic vapor. Some highly volatile molecules made it across into the flask, and they were embraced by that thick, dense Sandalwood essential oil. As the distillation progressed, the hydrosol filled

the flask, and the Sandalwood essential oil rose to the surface. When the distillation was complete, the flask was removed, and the oil was separated from the hydrosol.

The result was astonishing. It was now a coffee-infused Sandalwood oil of great subtlety and complexity. The boundary between the aroma of Sandalwood was blurred by the coffee, creating something totally new.

The alchemy, transformation, and mystery in this instance was that the Sandalwood essential oil was clearly imbued with the enticing aroma of freshly roasted coffee beans, and yet coffee beans yield no essential oil. Instead, the highly volatile aromatic molecules, still in a gaseous state, may have fallen into and been trapped by the sticky, viscous Sandalwood oil and held there. The relationship between the captive and the captor had transformed the substance into something completely different.

It made me appreciate how these concentrated aromatic perfumed oils had been so revered and treasured by the ancients. The word “exalt” immediately came to mind and seemed an appropriate descriptor for what we would do with our anointing oil. To exalt is to raise in rank, power, or character – to glorify.

As a distiller, I am taunted by the holy grail of capturing those fragile, delicate notes of flowers, herbs, and spices that are destroyed by the heat of the still. The methods commonly used to get around this often call for tonnes of petals and plant material to produce significant amounts of essential oil. I am not a commercial distiller, nor do I grow plants on a commercial scale, so I'm not able to harvest the tonnes of material needed to generate results for many of these elusive scents (Rose, in particular, springs to mind).

Now here was a compromise – and a beautiful one at that – whereby you would use an essential oil with a woody base note, such as Sandalwood, to capture these very light, delicate molecules as they passed through the still. Traditional attars are made in just this way – for instance, our example of Roses, where the petals are hydro-distilled into receivers of Sandalwood essential oil. And, importantly, it could be done on a smaller scale, which was much more achievable.

I had recently been exploring our New Zealand natives, so I wanted to use what I had discovered and work from what was available in my backyard rather than rely on using the aromatics of other cultures

and traditions. My mission was to make an exalted oil to anoint and glorify, using all natural materials that I could source from my immediate environment. I would look for ingredients that didn't come pre-made, nor travel in plastic or any man-made transport, as I love a challenge.

As I don't have Sandalwood trees in my backyard, nor access to material that would yield a similar essential oil, my plan was to start with that ancient technique of creating an infused, perfumed oil as the base.

Our ancestors would have infused oils and fats from elements gathered around them and used them for food, medicine, and sensory pleasure as well. Most herbs, barks, resins, spices, and flowers are rich in terpenoids, which give them their characteristic aromas. Terpenoids are soluble in oil or fat, and perfumeries of the far-distant past would have used those fats and oils that were available locally: Olive (*Olea europaea*) oil in the Middle East and the Mediterranean, animal fats in cooler climates, and Coconut (*Cocos nucifera*) and Palm (*Elaeis guineensis*) oils in tropical countries.

The plant material was placed in ceramic containers and may have been submerged in warm sand and left to infuse in the warmth of the sun. The heat of the sun would have broken down the cells and released the aromatic terpenoids into the oil, infusing it with fragrance. However, unlike distillation, more than just the volatile compounds are soluble in this process, and other non-volatile compounds become soluble in the oil. Resins were used extensively, as the whole resin would be soluble in the oil.

I live on a small island in New Zealand, in Auckland's Hauraki Gulf. New Zealand is geologically young and the European settlement is relatively recent compared to the waves of migrations and settlement on the major continents. Many still carry the traditions of past lives, originating from European cultures, and yet our landscapes and climate are so very different. We still have the luxury of open spaces – swathes of land that have no sign of human life. In some ways it's like a verdant garden, a diverse community of native flora and fauna intermingled with new arrivals from the rest of the world. This was the botanical larder before me.

And so, to begin my journey. The first step was to find a base oil or fat from a local source. In my previous research for the Botanica 2022 conference, I learned that Māori would often infuse resins into an oil derived from the Tītoki (*Alectryon excelsus*) tree. Tītoki oil was painstakingly made by collecting Tītoki seeds, pounding them to a pulp, and placing the pulp in an elongated bag of plaited green Harakeke (New Zealand Flax; *Phormium tenax*) leaves. Two men with strong cross-poles at each end of the bag then twisted it in opposite directions to express the green oil. The process was laborious and yielded small amounts of precious oil to use sparingly (Goldie, 1904).

This was beyond my capabilities and is where I did have to transgress and resort to using Sunflower (*Helianthus annuus*) oil that had been transported; however, it had been pressed and manufactured from sunflowers grown in New Zealand. It has a beautiful, golden hue and a slightly nutty aroma but, overall, relatively neutral, which was ideal as the introduced aromatics were to be the hero of the blend.

My second step was to source the aromatic elements. This is not quite the same as choosing from a catalog of fragrant treats sourced from all over the world, as there's no Sandalwood or Frankincense (*Boswellia* spp.) in my backyard. New Zealand has very few trees that produce these intense aromatic resins, and if they do, it's often in minute amounts. To find them requires careful exploration and observation, like a sensory meditation.

Which is how I came to investigate Tarata (or Lemonwood) in the first place. This native grows prolifically around where I live. It's used as a landscaping plant since it's drought tolerant, hardy, and attractive. As its name implies, the leaves have a green, herby, waxy, hay-like lemon scent. The stems exude a sticky, fragrant sap and ooze a tacky, toffee-like resin when the trees are damaged. The resin has notes of tropical fruits and toffee and is woody with a hint of citrus.

A mature tree was right there in my neighbor's backyard, and with their permission, we collected the resin daily from an old wound on the trunk.

Tarata resin was traditionally used by Māori (as most resins are) to help heal wounds, freshen the breath,



Tarata resin © Rowena Baines Photography

heal gums, and fight tooth decay. And of course, it was used as a perfumed anointing oil (Cambie et al., 2005).

I have also discovered a glade of ten Cedar (*Cedrus atlantica*) trees near a place I visit often. Of course, they are introduced and are described as large, easy-to-grow trees for large parks and gardens. One in particular, I call her the mother, weeps resin all year round. Maybe she has a deep internal wound that is perpetually being repaired.



Cedar trees © Jill Mulvaney



Pooling resin © Jill Mulvaney

The resins flow down the trunk, drying into stalactites of tears. It pools at the tree's base among the discarded needles and dirt.

The resin is tenaciously sticky, with a sherbet-citrus character. The earth and needles mixed with the resin are dirty, musky, and woody, a perfect combination for the base note in my oil.

I scooped the pile of needles and resins from the base of the tree and added it to the resin collected from the trunk.

As forests of Pine (*Pinus* spp.) trees march throughout our country, there's always several types of Pine nearby. My favorite is Stone Pine (*Pinus pinea*) because the resin has a similarity to Frankincense – lighter, and not so intense, but it's there. And I think it's good to honor the hard work that the Frankincense tree has been put to for centuries by finding similarity in another, less fragile species. There's also Monterrey Pine (*Pinus radiata*) nearby. Monterrey Pine also lives in North America, but how different it has become over the years since



Tears © Jill Mulvaney

it was introduced to this land. Although they are originally the same species, if they stood side by side, they would appear to be strangers. When these Pines are harvested, or a branch breaks in the wind, it produces copious amounts of fruity, fragrant, pine resin. We will have some of both in our infused oil blend.

Fruit trees grow near popular walkways and picnic spots, most likely from seeds and stones that have been left after the fruit is eaten. Lichens (*Usnea* spp.) grow on their trunks and branches. Like Oakmoss (*Evernia prunastri*), they all have a unique musky, warm, earthy, woody, and sensual aroma. Beard Lichen (*Usnea florida*) has been used as medicine by many cultures for centuries. Its antibacterial and antifungal properties are well known. It has an intriguing musky, dusty aroma and creates a platform for other notes to merge into. It's easy to collect, so that goes into the pile as well.



Usnea © Jill Mulvaney



Honey-gold Kauri gum © Jill Mulvaney

Tarata, Cedar, and Pine resins along with the Lichen will be the base notes of the infused oil. I can't resist adding some Kauri (*Agathis australis*) gum – though I didn't collect it myself; it was gifted to me by a student. It is carried down a river on a nearby peninsula and collected on the local beach. It's worn and dry, but when ground and warmed, it adds a mineral note to the blend.

Now that the components of the infused oil have been assembled, they are ground into a coarse powder. I use a Vitamix, but you can use a heatproof glass jar that sits in a pot of simmering water. Just make sure the jar is sitting on something that keeps the base above the bottom of the pot, otherwise, it may crack – and you don't want to lose all those precious materials in the water.

When infusing resins in oil, I use one part resin to three parts oil (as a guide). The oil and resins are

heated and stirred until the resin dissolves, then I filter and bottle the infusion while still warm. At this point, it's allowed to cool and stand for a few days so any precipitate will settle on the bottom. I also add Vitamin E, which will act as an antioxidant and keep it fresh. These oils age well if stored correctly (bottled in colored glass) and kept in a cool place.

Phase one, creating our infused oil, is complete. This infused oil takes on a golden glow. It's warm and fragrant when applied, and is rich with resin; it will have all those therapeutic properties of healing and grounding coupled with the ability to uplift the emotions that we associate with resins and citrus. As it is, it's an oil to anoint.

Phase two is to exalt the oil by adding another dimension of aroma. This will be with the process adapted from the Indian tradition of making an attar. And instead of using Sandalwood essential oil, the base will be our resin-infused oil.

The aroma profile of our infused oil has top notes of pine and lemons; these peel away into a segment of tropical fruit and apple peel, then bear down to a woody, earthy finish. I'd like to introduce a floral note to exalt and complement it. As it's not the right season for flowers to be in bloom here, it's time to think outside the square. A Yuzu (*Citrus x junos*) tree is nearby, heavy with fruit. The peel of Yuzu is unlike any other citrus – like a fruit salad of mixed citrus oils but with a heady floral note, a perfume all unto itself. Yuzu is also heavier than most citrus notes and lingers longer.

An organoleptic image is forming in my mind's eye of heavy resins, light citrus notes, and viscous tropical fruit with hints of grass and twigs. But it needs air and freshness, so now to find a hint of local 1,8-cineole to breathe a puff of fresh air into the blend, to elevate the resins and tropical fruit. Bay (*Laurus nobilis*) comes to mind, and a nearby hedge would benefit from a prune. These two components (Yuzu and Bay) won't be infused but steam distilled instead, like an attar, directly onto our infused oil so we can capture these delicate top notes.

When making an experimental product such as this, it's both useful and manageable to start by making small amounts, in this case, just 100 g (3.5oz). Once

the oil is made, aged, and evaluated, it's then easy to scale it up to larger quantities. For this distillation, I use a 10 L (~338 fl oz/2.6 gal) copper column alembic still. The column is packed with 1 kg (~35.3 oz) of Yuzu peels. Five hundred grams (~17.6 oz/2.2 lbs) of fresh Bay leaves are placed in the pot of the still and covered with boiling water.

As the distillation begins and the water boils, the waxy coating on the Bay leaves breaks open, and the heat of the water (combined with the pressure inside the still) releases the volatile aromatic molecules that get caught up in the rising vapor. That same vapor travels through the column where the Yuzu is packed. The volatile aromatic molecules of the Yuzu peel are released and combined with the Bay traveling through the still in a gaseous state. When the vapor flows down to the worm in the condenser it turns back into a liquid state, cooled by the water flowing through the condenser bucket. The Bay and Yuzu become one amidst myriad reactions.

The outlet of the condenser, where the distillate flows, is attached to a flask containing the aromatic-infused oil from phase one. The flask is sealed so nothing can escape. The distillate falls into the infused oil where the oil-soluble molecules will be caught and absorbed. When the distillation is completed, the oil is separated from the water, filtered out, and bottled.

When it's fresh from the still, an oil such as this may have a slightly fusty, vegetative note. If left in a cool place to age for a few weeks, it changes and becomes clean and bright. After being combined through infusion and distillation, you can imagine how all those elements react with each other, forming innumerable new compounds and transforming into a new, often unexpected substance.

I am both surprised and delighted with the result. Maybe, in part, this may have been from the hard work that went into creating it. All the time it took to collect and prepare the elements, the sense of not knowing what the outcome would be, and the delight when it all came together as a new creation were worth the effort.

This is a very different process – and product – than blending from a range of single, pre-made elements,

such as blending purchased essential oils into a fixed oil base. My breath and heart are in there somewhere, as is the land from whence these elements were born and the air they breathe as well. It has deepened my respect for ancient practices and shown how they still have a place in today's world. These types of preparations deepen your connection to the land and what it puts forth, and they foster a deep sense of respect and wonder.

When I anoint myself with this oil, that is what I remember. ✨

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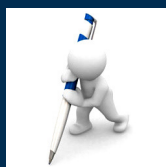
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