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Edmond Albius: the boy who revolutionised the vanilla industry

Leanne Melbourne tells the story of an unsung hero

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Vanilla is one of the world's most popular spices, and the second-most expensive after saffron. This multi-million dollar industry is all down to Edmond Albius (1829–80), a 12-year-old slave from the Réunion Island. His ingenious thinking enabled artificial pollination on a mass scale, which in turn enabled the industry that we know today. However, Edmond was never compensated for his contribution, dying practically penniless, and to this day is still relatively unknown.

The flavour we know and love so well comes from the fruit (seed pods) of the *vanilla* orchid. (The word 'vanilla' itself actually means 'little pod'; it is derived from the Spanish word 'vainillia'—a diminutive of 'vaina'—which means 'sheath' or 'pod'.) The most widely known *vanilla* orchid, and the only one cultivated for vanilla production, is the flat-leaved vanilla plant (*Vanilla planifolia*), native to Mexico. Spanish explorer Hernán Cortés (1485–1547) is credited with bringing the delectable spice to the Old World in the 16th century, but at that time it was only really seen as a way of 'flavouring' chocolate. As soon as it made its way to the households of the elite, in foods like ice cream, as a miracle drug and as an aphrodisiac, demand for the spice increased. However, there was a problem; very few plants outside of Mexico would bear fruit.

Vanilla planifolia

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Painting of *Vanilla planifolia* by John Tyley
from Alexander Anderson's *Hortus Sti. Vincentii*
Tabulae

pollination occurred. In its native Mexico, *Vanilla planifolia* is pollinated by bees of the *Eulaema* genus. Originally thought to be exclusively pollinated by the *Melipona* genus (the Mountain Bee), this was later realised to be incorrect (Lubinsky, 2006). It wasn't until 1836 when a Belgian botanist named Charles François Antoine Morren (1807–58) closely studied the bees pollinating *Vanilla planifolia* and discerned how pollination occurred, leading to his published account of artificial pollination (Morren, C. 1837). His discovery, however, was still very much confined within a narrow circle of academic botanists. Additionally, being quite a fiddly technique it was best suited to controlled greenhouse conditions, and not the mass scale of production required on plantation fields.

Enter Edmond, the hero of our story.

Edmond was born into slavery in 1829, in Sainte-Suzanne on the island of Bourbon (modern-day Réunion). His mother, Melise, died

Young Edmond Albius

in childbirth and he never knew his father, Pamphile. At an early age he was sent by his master to work with Ferréol Bellier-Beaumont on the Belle-vue plantation, who taught him all about the study of horticulture and botany. In the late 1810s, Bellier-Beaumont received vanilla cuttings from Pierre-Henri Philibert, captain of the fluyt *Rhône*. Subsequently he was only able to keep one vine alive which, unfortunately, was unable to bear any fruit. Then, whilst walking through his gardens with the young Edmond in 1841, Bellier-Beaumont discovered two fruits on this solitary 20-year-old vine. To his astonishment, Edmond claimed that he had been able to fertilise the flower by hand. Initially, Bellier-Beaumont did not believe that this 12-year-old boy had achieved something that so many had failed to do before him. A few days later Bellier-Beaumont noticed more pods developing, and requested that Edmond show him his specific technique for hand pollination. Bellier-Beaumont realised the technique was similar to his own method for hand pollinating

"In this plant [watermelon], the male and female flowers occur on different plants, and I taught the little black boy, Edmond, how to marry the male and female parts together... This clever boy had realized that the vanilla flower also had male and female elements, and worked out for himself how to join them together."

Within days other planters made their way to Belle-vue to see Edmond's technique. The young Edmond was transported around Réunion to demonstrate his technique to slaves on other plantations. After Edmond's discovery, vanilla production on the island boomed. In 1858, Réunion was able to transport 2 tonnes of vanilla beans back to France; by 1867 this had increased to 20 tonnes and by 1898, 200 tonnes. By the late 19th century, Réunion was outstripping Mexico as the world's largest producer.

So what happened to Edmond? You could be forgiven for thinking that his role in the success of this highly profitable industry would result in a happy ending, but sadly this was not the case. Though the French Republic had first abolished slavery in 1794, this had been revoked by Napoleon in 1802. April 1848 saw France re-abolish slavery in its colonies; it was around this time that Edmond was freed and given the surname Albius. Bellier-Beaumont tried to secure him a state pension for his services to the vanilla industry, but his appeals fell on deaf ears.

Edmond Albius © Wikimedia Commons

So, at the age of 19 and with only a small amount of cash from Bellier-Beaumont, Edmond

set his sights on the prefecture of St-Denis, in the north of Réunion. Life would have been hard; with no formal qualifications, Edward was also having to compete with many former slaves similarly looking for work. Eventually, after some menial work as a labourer, Edmond found a job as a kitchen boy in the house of an officer in St-Denis' garrison, but this was short-lived. A robbery took place at the house one night, and consequently a white woman was injured. Though several men were involved, Edmond was blamed and sentenced to five years imprisonment with hard labour. Due to Bellier-Beaumont's volley of appeals, and support from local Justice of the Peace Mézières Lépervanche who extolled Edmond's service to the island to the governor, Edmond was released early. He returned to Belle-vue where he stayed until he was married. He died aged 51 not receiving any type of stipend for his monumental contribution.

On 26 August 1880, the *Moniteur* newspaper stated:

"The very i

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vers, has

The frustration doesn't end there. Several people refused to believe, and some actively discredited, Edmond's achievement. The French botanist Jean Michel Claude Richard claimed that he had developed the same method of hand pollination 3 or 4 years earlier, and that when he visited Réunion to demonstrate it to other horticulturists Edmond must have witnessed it. Yet again, Bellier-Beaumont comes to the rescue writing to local historian Eugene Volsy-Foscard that:

"How could Mr. Richard have taught the young boy this technique in 1838—when he was only eight years old? And if he did so, why would a botanist... keep such a lesson to himself, sharing it only with this young boy and not with myself and other planters?"

According to Arditti *et al* (2009), there was still controversy as late as the early 20th century where questions were raised as to whether Edmond, an uneducated slave, could have come up with the method. Through thorough analysis, Arditti *et al* (2009) later come to the conclusion that:

"There is absolutely no reason to believe that Albius could not have figured out all by himself how to pollinate the flowers. And, since Ecott's [Ecott, 2004] search through the archives certainly seems to have been thorough his report should be accepted as definitive. If so there can be very little doubt that Albius discovered the pollination process on his own."

While Edmond probably wasn't the first to come up with the hand pollination technique (it is evident that there have been several independent discoveries), he must be credited for essentially providing the key for the vanilla industry not just in Réunion, but in other French colonies and islands like Madagascar—currently the main global exporter of vanilla.

In 2017, Madagascar produced 40% of the world's vanilla, while Mexico, where *Vanilla planifolia* originates from produced about 6%.

Bellier-Beaumont takes his island to task over Edmond's treatment in this final remark:

"It owes him a debt, for starting up a new industry with a fabulous product."

By Leanne

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The main source for this article is Ecott, T. 2004. *Vanilla: Travels in Search of the Luscious Substance*. Penguin: Michael Joseph.

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