

WORLD HISTORY & GEOGRAPHY OF

ARABICA COFFEE CULTIVARS



CHRIS KORNMAN



World History & Geography of Arabica Coffee Cultivars

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Preface

What started innocently as a conversation over a cup of Colombian coffee, and an inquiry to create a quick graphic for a public coffee tasting, soon became an obsession.

I've been quietly digging into coffee history for some time now, and suddenly I found myself pulling every reference I could. There was a massive gap in our industry's commonly understood Arabica family tree. Where did these mutations and hybridizations take place? Who was responsible? And when did they occur?

The information, collected at various botanical gardens and gene banks for coffee across the globe, can be relatively difficult to access, and even more challenging to trace. Like a mad detective with an unsolved case, I began stringing push-pins representing cultivars* from Ethiopia to Yemen to Indonesia to Brazil to Costa Rica.

It became clear that the scope of the project had shifted from "quick graphic" to a full-fledged survey of history, geography, and coffee horticulture.

When I finally presented the first iteration of the data to our team, there was enthusiasm, but also a bit of dread. How could we possibly make sense of the data beautifully and accurately? Luckily, we enlisted the help of Jeremy Yingling and Randy Krum at Infonewt.com, who've magnificently visualized Arabica's genetic story across space and time.

We don't pretend to have even scratched the surface of modern coffee plant development. Rather, we hope to provide a structured and organized roadmap for roasters and enthusiasts interested in genetic and historic accuracy regarding some of Arabica's most popular and pervasive cultivars.

I'm very proud to present this new, exciting, and beautifully contextualized infographic of Arabica coffee's family tree.

*Throughout the piece I will primarily use the botanical term "cultivar" (a portmanteau of "cultivated variety") to refer to named plant types (like Bourbon and Typica). The distinction from a "variety" in botany is that a cultivar is systematically and intentionally chosen for reproduction and cultivation, usually requiring human intervention to remain true to type (i.e., cultivars will not propagate from seed). Varieties are, at least botanically speaking, true to type by seeded propagation, and reproduce without human intervention. Occasionally, the term "landrace" will be used to indicate selections from wild populations cultivated serendipitously and circumstantially, like forest populations of trees still growing in western Ethiopia, tended to in traditional ways but not commercially cultivated, *per se*.



African Origins

Pulled back to the broadest of views, the winding route Arabica took circumnavigating the planet highlights both the impressive globalization of the crop during the age of industry, as well as the shortsighted nature of colonial interests. But Arabica far predates European meddling.

Scientists (Scalabrin, S., Toniutti, L., Di Gaspero, G. et al.) sequencing the Arabica genome, determined that a single, spontaneous interspecific (that is, two unique species) relationship of *Coffea canephora* (Robusta) and a low-yielding, low-caffeine coffee tree called *Eugenioides* produced Arabica, a hybrid. While Robusta and *Eugenioides* are both indigenous to the current border-regions of southern Uganda, northwestern Tanzania, Rwanda, Burundi, and western Democratic Republic of Congo, Arabica seems to have evolved in the Keffa Zone in what is now the western edge of Ethiopia, and along the northwest border with South Sudan's Boma Plateau.

Likely well known locally and consumed for centuries prior to outside influence, the historical question of when coffee was first introduced to the rest of the world is still unsatisfactorily answered. Could Ethiopia's Coptic Aksumite Empire have brought the crop to Arabia Felix (modern day Yemen) during its occupation in the 6th century? It's possible. Less believable, but no less fantastic stories of coffee's "discovery" include tales of King Solomon using it to cure a plague, Kaldi noticing his badly behaving goats under the influence of caffeine, the archangel Gabriel delivering it to a beleaguered prophet Muhammad, and Sheik Omar surviving on nothing but coffee berries for days while wandering in exile from the city of Mokka.

Our most reliable histories indicate that it would be Sufi imams (surviving texts note one Jamal al-Din Abu 'Abd Allah Muhammad ibn Sa'id, known as Dhabhani) who would bring coffee into popular use during late night vigils in Yemen's port of Aden, incontrovertibly no later than the mid-15th century. Yemen would be coffee's home away from home, and its hub for introduction to the rest of the world.



World History & Geography of Arabica Coffee Cultivars



LEGEND

Americas

Africa

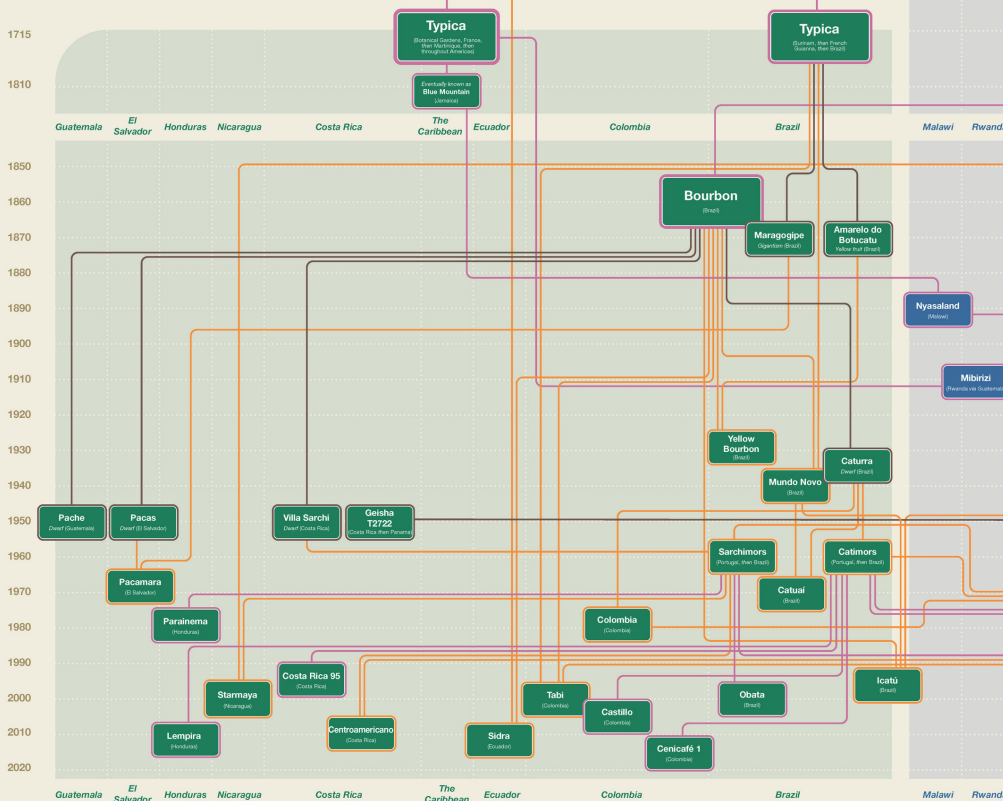
Asia

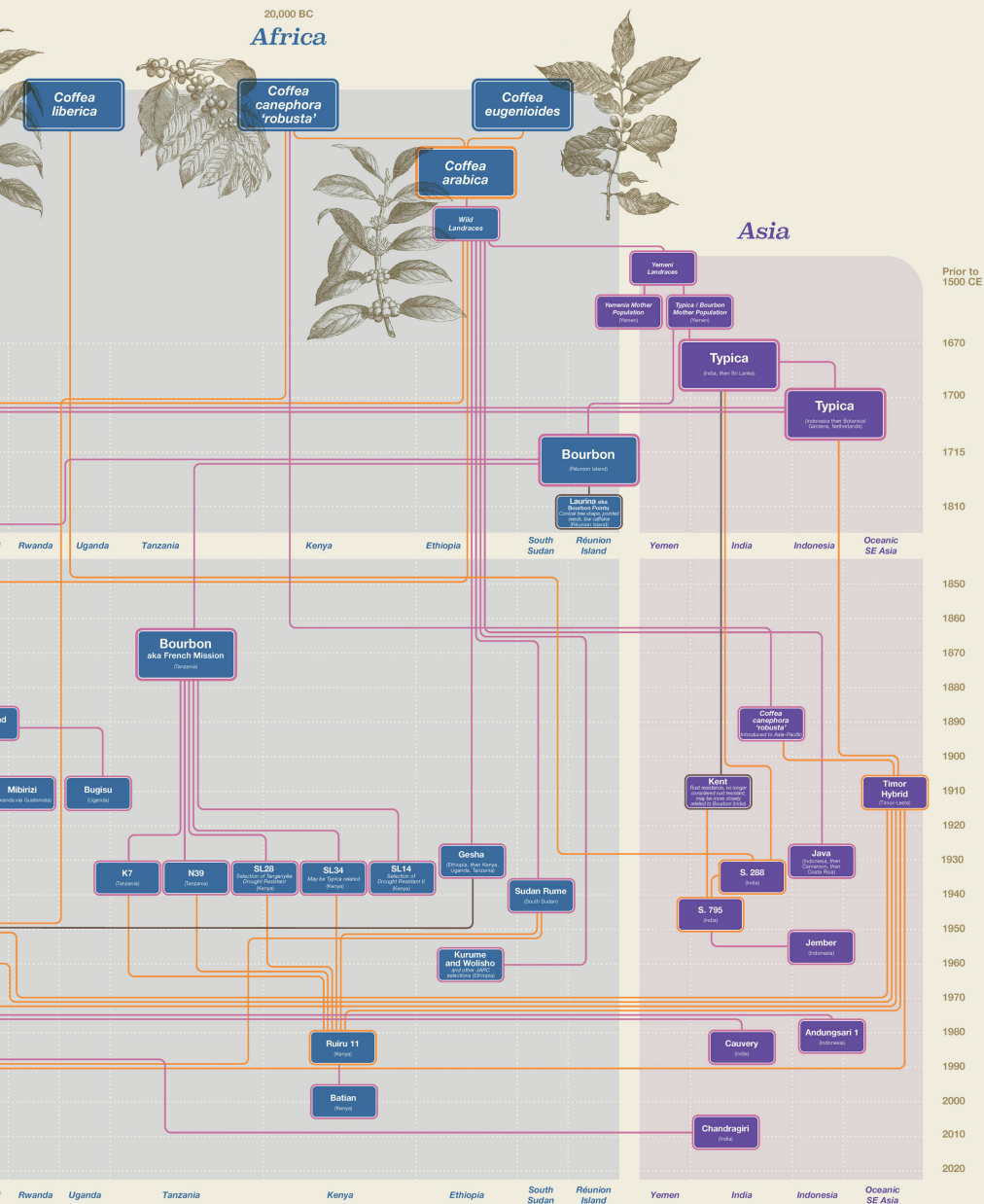
— Relocation
and/or Selection

— Hybrid

— Mutation

Americas







Circumventing Arabian Exclusivity

One of the modern era's most thrilling coffee discoveries is the existence of an aptly named Yemenia mother population, reported as recently as 2020 by noted coffee geneticist and former World Coffee Research (WCR) Chief Scientific Officer Christophe Montagnon, et al. These trees exhibit genetic distinction from the rest of the globe, their uncharted lineages altered and reinforced by centuries of adaptation, isolation, and traditional practices.

Yemen (then Arabia Felix) was cultivated Arabica's homeland. For about two centuries, the tiny sliver of the Arabian Peninsula maintained a commercial monopoly on the globe's supply of green coffee.

But by the beginning of the 17th century, nations in Europe had taken an interest in colonizing vast swaths of newly "discovered" lands and peoples across much of the globe (and apropos of our topic, throughout what are now coffeelands) to exploit and profit from. Coffee was taken at least twice from Yemen by Europeans, and at least once more by the Indian Sufi monk Baba Budan, to be planted on foreign soils.

The earliest unsanctioned plant relocation would have likely been at the hands of Dutch East India Company merchant Pieter van den Broecke, who visited the port of Mokha in 1616. From the port, he journeyed north to Sana'a with a trumpet player and two soldiers in order to obtain trading permission from the local Paşa, which he was not granted. He did, however, manage to smuggle a whole, uprooted coffee tree back to the botanical garden in Amsterdam.

The Dutch began occupying Portuguese forts on India's Malabar coast, where coffee first took foothold on the subcontinent, around 1660. Baba Budan's pilgrimage to Mecca, including a stopover to steal seven famous seeds and smuggle them back to the hills in Karnataka, is roughly dated 1670. The Dutch cultivated coffee in both India and modern Sri Lanka, but whether the genetic stock was from Pieter van den Broecke's tree or Baba Budan's seeds is not



entirely clear. It could very well be both**. In either case, this is the colloquial origin of the **Typica** cultivar, which would become the world's first globally colonized coffee tree.

The Dutch brought Indian-grown Typica to their outpost of Batavia (now Jakarta) on the island of Java in what is now the nation of Indonesia. After a few failed attempts, successful clippings were planted in 1699, and eventually cultivated throughout the islands of the south Pacific. A selection from Java would also return to the Dutch Botanical Gardens, from which seedlings would be presented as a gift to France.

Colonies in the Americas would soon begin planting coffee from these small European collections. Mercantile capitalism brought foreign crops to the far reaches of the world, and under this system formal documentation would often be circumvented by myriad factors, from lack of infrastructure to outright price manipulation. The result is that data from earliest years of coffee's globalization are mostly "best guesses," as argued by noted coffee historian and professor at UC Irvine Steven Topik.

William Ukers, a coffee enthusiast, prolific writer, and amateur historian suggests the western hemisphere's first coffee arrived in 1715 in St. Domingue, now the island of Hispaniola split by Haiti and the Dominican Republic. This seems somewhat unlikely, as more reliable historical documentation hints at introduction by the French to the island of Martinique around 1720-1723***.

The Dutch seem to have preceded this, first growing coffee in what is now Surinam around 1718. Surinam's coffee would eventually make its way down to northern Brazil by about 1727, whereas Martinique's trees eventually seeded most of the Caribbean islands.

**Recent genetic testing of multiple cultivars assumed to be related to Typica (such as Kent) or Bourbon (such as SL34) has revealed surprising lineages. Essentially all historic Indian cultivars were assumed to be Typica (there's no record of Bourbon's introduction prior to Kent's selection) and Kenyan SL trees frequently bear the "French Mission" designation, presumably Bourbon trees. It's worth emphasizing that there might be multiple sources of India's Typica trees (Baba Budhan and van den Broecke), and that both Bourbon and Typica parents were taken from Yemen in incredibly small selections from unknown Yemeni populations of unclear provenance. Beyond this, modern coffee genetic specialists often classify the Typica-Bourbon group together, due to the scant differences between their DNA codes – a mere 15% divergence between the two.

***A flavorful tale involving Captain Gabriel de Clieu, a French Naval Officer under Louis XIV, includes his journal of the delivery of a single plant from France. The ocean journey was a perilous one, involving pirates, storms, and long delays on the high seas; drinking water aboard the ship was rationed. De Clieu claimed to have shared his allotment with his precious seedling and successfully delivered it to the island of Martinique in the Lesser Antilles in 1723 (disputed 1720). He believed he was bringing the New World's first coffee, and is often credited as the source of all American *Coffea arabica* var. Typica. It's a fun story which raises questions about what constitutes fact and fiction, as our only source for most of the information is in the overtly hyperbolic recollections of de Clieu himself.



Concurrently with coffee's introduction in the Americas, the French were also engaging in early trade with the Imamate in Arabia Felix, modern Yemen. Their agent on the ground established a good relationship with Imam Al-Mahdi Muhammad and obtained permission to transport coffee trees to the French East India Company's occupied island a few hundred miles from Madagascar, known now as Réunion, then as Bourbon. Just a few of the original trees survived the journey, which came to completion on September 25, 1715, and even fewer survived planting on the island's soils****. This, the third major transportation of genetic material from Yemen, is regarded as the origin of Arabica's **Bourbon** cultivar.

Bourbon harvests would be sold – mostly to France but also throughout the East Indies – under the “Mocha” moniker per an awkwardly implemented piece of French regulation of coffee trade*****. However, the plants themselves would remain largely isolated from the rest of the world for a century-and-a-half, while Typica trees dominated the market outside of Ethiopia, Yemen, and Réunion.

****While World Coffee Research cites three separate plantings on Réunion, the memoirs of French East India Company officer Louis Boyvin d'Hardancourt, indicate a single transport in 1715 of sixty trees, of which twenty survived the voyage and only one survived planting.

*****According to research by E.C. Spary in her book “Eating the Enlightenment,” French customs officers began seizing small shipments of “wild coffee” (indigenous species *Coffea mauritania*) grown on Bourbon adjacent to the cultivated trees, claiming it wasn't “real coffee” and that fraud was being perpetuated. Eventually, despite differences in appearance and flavor, authorities deemed that the wild coffee was similarly commercially viable, and in an effort to subvert suspicion of authenticity, all coffees were instructed to be wrapped and labelled as “Mocha.” While *C. mauritania* cultivation ceased soon after the directive, Bourbon-grown Arabica began selling and occasionally comingling with beans grown and sourced directly from Yemen. It's not hard to find some irony in regulation which was first drafted to prevent fraud, instead actively enforcing mislabeling coffee's origin and type.



Coffea Arabica



Entering an Age of Genetic Divergence

Incredibly, from the late 17th century through the middle of the 19th, a single botanical cultivar group dominated global production. For more than 150 years, plants descended from a tiny original selection of trees known as *Typica* flourished from Java to Brazil and beyond.

Apart from two notable events, relatively little was reported genetically until the latter half of the 19th century. Both incidences would initiate on isolated islands.

Typica was introduced to the island of Jamaica as early as 1730 under British occupation, growing there for about a century until a major flooding event around 1815 decimated the plantations outside of the Blue Mountain region. It's likely that around this time the cultivar took on the regional moniker, and "Blue Mountain" coffee began to make its way around the world. Other than its distinction as a regionally selected accession of *Typica*, it's not entirely clear if there are significant mutations from the original *Typica* plants.

Jamaica Blue Mountain (JBM) was taken to other British colonies, and it can be found growing throughout modern coffee regions in countries as diverse as Papua New Guinea and Tanzania. Interestingly, while World Coffee Research's variety catalog does not currently recognize JBM, it does acknowledge a cultivar by the name of **Nyasaland**, which seems to be one and the same. In 1878, Jamaican *Typica* was introduced to Malawi (then Nyasaland), where it became known under the same name. It was taken to Uganda in 1910, and is known there as **Bugisu**. Thus, Bugisu, Nyasaland, and JBM are all simply regional *Typica* plants, each descended from trees in Jamaica. In this roundabout way, it could be construed that cultivated *Typica* returned to its roots on the African continent, not so far from soils that first nurtured its wild-grown ancestors centuries earlier.



Meanwhile, off Africa's southeastern coast, one significant mutation was first observed around 1810 on Réunion island, where select Bourbon cultivar trees exhibited new phenotypes, including short stature, conical tree shape, pointed seeds, and low caffeine content. Originally called "Bourbon Pointu" or "Le Roy," the mutant eventually became known as **Laurina*******. This is the first well-documented instance of Bourbon's tendency to mutate and exhibit dwarfism, a trend observed with frequency later in history.



Coffea Canephora

*****You can read more about the deep and intriguing history of Réunion's contribution to coffee as the origin of Bourbon and Laurina in my Sept/Oct 2020 article for Roast magazine, also republished on the Royal blog.



Resistance and Spontaneity

The latter part of the 19th century was marked by several significant events in coffee's history, distribution, and eventual increase in genetic diversity.

Coffee's commercial cultivation hit its first major setback in the late 19th century. Typica's early dominance as the globe's only cultivated variety proved to be an Achilles' heel: monoculture has its drawbacks, among which are resistance to new disease. Trees on the island now known as Sri Lanka were patient zero for the first coffee leaf rust fungus pandemic, beginning around 1869^{*****}. The islands of the Pacific Ocean were decimated, prompting colonizers to plant alternative species, primarily Robusta and Liberica (including *Coffea liberica* var. *Dewevrei*, commonly known as *Excelsa*).

The rust outbreak, in concert with escalating U.S. consumption trends, led to a global production volume shift in the early 20th century to the Western Hemisphere. This coincided with the emergence of Arabica's second globally cultivated tree type.

After almost 150 years of isolation, Bourbon made its debut on the global stage, first in Brazil around 1859 and thereafter introduced to Africa via Tanzania's Bagamoyo coast by French Missionaries of the Spiritan Catholic sect by or before 1877.

While most countries in Meso- and South America had initially planted Typica types, Bourbon's higher output volume led replanting en masse throughout the region. Just 50 years after its emergence from Réunion and introduction to Brazil, Bourbon would be the world's most cultivated coffee tree, dominating fields in the Americas and much of colonized Africa by the early years of the twentieth century.

Initially, according to author and historian Augustine Sedgewick, Bourbon's perceived value was "derived in part from the fact that its seeds did a passable imitation of Mocha, and in part from the fact that it gave unusually high yields." However, "it was also considered

^{*****}For more information on Coffee Leaf Rust, you can read more in an article published first by Roast magazine in July/August and republished on the Royal Blog.



to be of lower quality, perhaps as a result of its association with Brazil.” This reputation didn’t last particularly long, however, in part due to the butterfly effect that started with those rust fungal spores on the other side of the world. The West needed to grow more coffee, and Bourbon could help with that.

Meanwhile, remnant Typica trees began to show evolutionary idiosyncrasies in Brazil, where plants exhibiting gigantism (**Marigogipe**, 1870) and a yellow fruit cultivar called **Amarelo do Botucatu** (1871) were observed, and then selectively bred. Both cultivars would later contribute their genetic quirks to new plant types in the 20th century.

As a response to rust and other afflictions, by about 1910, many trees were being systematically selected for disease and climate resilience, particularly in India. Sometimes known as the “old Chicks” (as many were cultivated in and around Chikmagalur), the most iconic among these is **Kent**. Selected from a population of Typica on Doddengooda Estate in Mysore in 1911, a single tree exhibited an uncanny ability to withstand rust fungus. It’s named for its discoverer and became wildly popular throughout British colonies in the 1920s and 1930s. Kent was presumed to be Typica, as there’s no record prior to this time of Bourbon trees introduced from Réunion. However, modern genetic testing indicates the tree may be more closely related to Bourbon than Typica.

Nature also improvised its own solution to rust around that same time. Newly introduced Robusta and surviving Arabica plants spontaneously hybridized on the Pacific Island of Timor, birthing an interspecific hybrid tree known simply as the **Timor Hybrid**, or Hibrido de Timor (HdT). Exhibiting flavor characteristics similar enough to Arabica, while retaining *C. canephora*’s hardiness and resistance to rust, the hybrid became popular across the region.

This unexpected hybridization (or, perhaps, a backcrossing 20,000 years in the making^{*****}) might be the defining moment in coffee’s modern history, at least commercially. The Timor Hybrid would become the basis for entire groups of engineered hybrids built to outlast changing climates and new disease.

^{*****}A poor attempt at botanical humor? Or a scientifically valid opinion? I’m not sure. For context, backcrossing is a breeding method in which a generation of plants will be selected and then re-bred with one of their parents in order to reinforce certain traits in subsequent generations. Because Arabica is the historical child of a *Eugenioides* and Robusta hybridization, reintroducing Robusta genetics (albeit millennia later) to create the Timor Hybrid could be viewed as a naturally occurring interspecific backcross breeding experiment. The whole event is a bit of a chaotic anomaly – Arabica is tetraploid (double the number of usual chromosome DNA strands) and theoretically is incompatible for breeding with the diploid Robusta.



Coffea Eugenioides



Modern Cultivars Emerge in the Early 20th Century

The early 20th century saw significant new tree developments worldwide. Many cultivars to emerge during this era bear familiar names.

Records indicate that the cultivar we know as **Java** was selected from a few mother trees in Ethiopia by the Dutch coffee researcher P.J.S. Cramer in 1928. Seeds from these trees were sent to Java, and the plants flourished and showed resistance to leaf rust where other Arabica varieties had faltered. To this day, in Indonesia the cultivar is referred to as Abyssinia (or as cognates Adsenia or Abissinie), the name of Ethiopia at the time. The trees look very similar to Typica, and were frequently attributed as such, but true Abyssinia-Java's provenance is directly Ethiopian, from 20th century selections. It continued its journey from Indonesia to Cameroon and thereafter to Central America where it can still be found with some frequency.

In 1930, first observations of a new yellow fruit tree were reported in Brazil. Known and grown today with ubiquity, most sources indicate that **Yellow Bourbon** is in fact a hybrid of the original red-fruit Bourbon and the yellow Typica tree, Amarelo do Botucatu.

Then, famously, somewhere close to the town of Gesha in remote western Ethiopia's Bench Maji Zone, British agents picked and transported coffee from the forests around Kaffa to Kenya in 1931, and seeds from these trees were then sent to Uganda and Tanzania in 1936. A second expedition and collection was made that year. The British botanist T.W.D. Blore, based in Kenya, noted the tree's "long drooping primaries, prolific secondary growth, small narrow leaves and bronze tips." Collections in these countries populated fields and research stations in Malawi and Costa Rica (where CATIE's T.02722 germoplasm is now used as a testing standard for the tree type), and eventually Panama... where the cultivar was "rediscovered" at an auction in 2004. Its flavor impressed judges and buyers alike and there the plant continues to produce award-winning flavors and garner record-breaking prices.



Gesha trees, spelled “Geisha” with frequency, can be found worldwide now. However, not all of these trees share genetic history – note that multiple landraces were selected on more than one expedition. Even the original Panamanian winner, Hacienda la Esmeralda, grows trees exhibiting differences in new growth color (bronze tip being dominant, but green tips also emerge), a dwarf tree subpopulation, and a subset of Gesha trees exhibiting distinctly non-Gesha genetic drift (presumably due to cross-pollination from other tree types). A 2020 study of 88 supposed Gesha samples submitted globally from a mix of “verified” stock and farmers who self-selected plants, a mere 39% conformed genetically with the T.02722 reference.

Let’s return briefly to the 1930s, when in Kenya, “French Mission” trees were selected for reproduction based on climate and disease resistance under the guidance of an organization known as Scott Labs. The SL types include Kenya’s **SL28** (a Bourbon-relative from Tanzania) and **SL14** (a drought resistant Bourbon now frequently grown in Uganda), as well as **SL34**, which seems to be Typica-related.

Back in Brazil, the most popular of many dwarf Bourbon mutations began to appear. **Caturra**, first seen in 1937 near the border of Minas Gerais and Espírito Santo, is now widely grown throughout the Americas. In Central America at the end of the 1940s, **Pacas**, **Pache**, and **Villa Sarchi** each evolved as separate but similarly short Bourbon variants. (Short trees can have advantages in commercial cultivation because they can be planted more densely, increasing the yield per hectare.)

In 1941, in the Boma Plateau of South Sudan, an economic botanist named A. S. Thomas documented the selection of coffee trees from the Rume area from the remnants of a wild population. These trees were taken to research stations in Uganda, Tanzania, and to Scott Labs in Kenya, and eventually to Costa Rica. Rarely grown in commercial practice, informally documented descendants of **Rume Sudan** (or Sudan Rume as it’s often written) are used to varying degrees as “ingredients” in hybrids, such as Kenya’s **Ruiru 11** and **Batian**, and Central America’s **Centroamericano**.



Meanwhile, in Arabica's homeland, one of the world's most important centers for green coffee genetic preservation and development, the Jimma Agricultural Research Center (JARC), began as a humble agricultural school in the 1950s and has since opened up regional centers and has a large Arabica collection. Beginning around 1970 regional selections were identified and distributed, including some landrace accessions well-known to roasters familiar with the southern highlands coffee growing regions including Sidama, Gedeo (Yirgacheffe), and Guji. The most famous of these are **Kurume** and **Wolisho**, less well-known but equally widely distributed in the region are **74110** and **74112**, which were taken from selections in Illubabor, a zone located northwest of Jimma, in 1974.

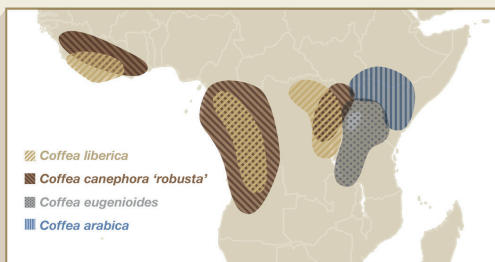
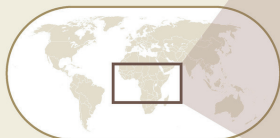


Coffea Liberica var. *Dewevrei*



Wild Populations and Presumed Origins

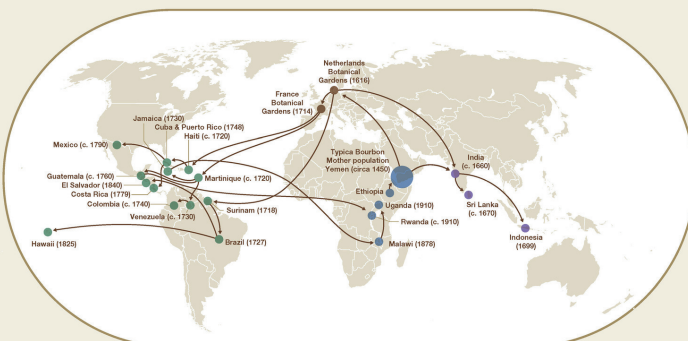
Science didn't recognize most non-Arabica species of coffee until the late 19th and early 20th centuries. Collections from various wildily growing populations, documented over the past century, give us indications of the presumed original ranges of the various indigenous *Coffea* species.



Ranges represented indicate collection sites of wild species from 1900 – present day.

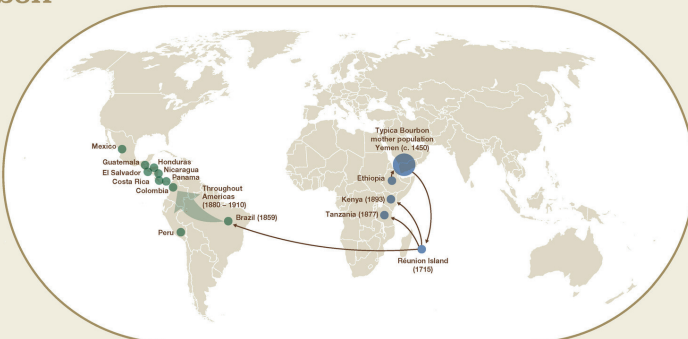
Dispersal of Typica

Typica was *Coffea arabica*'s first globally colonized tree type. The cultivar was stolen from Yemen and brought to India and beyond beginning in the late 1600s, and within half a century it could be found throughout European-occupied soils in Asia and the Americas. Its unrivaled dominance came to an end with the introduction of Bourbon.



Dispersal of Bourbon

Bourbon's sudden explosion onto the scene in the late 19th century is primarily attributable to its high production volume compared to Typica. Within just a few years of its introduction to Brazil and mainland Africa, it spread rapidly to neighboring countries and by the first decade of the 20th century was the primary arabica cultivar grown globally.



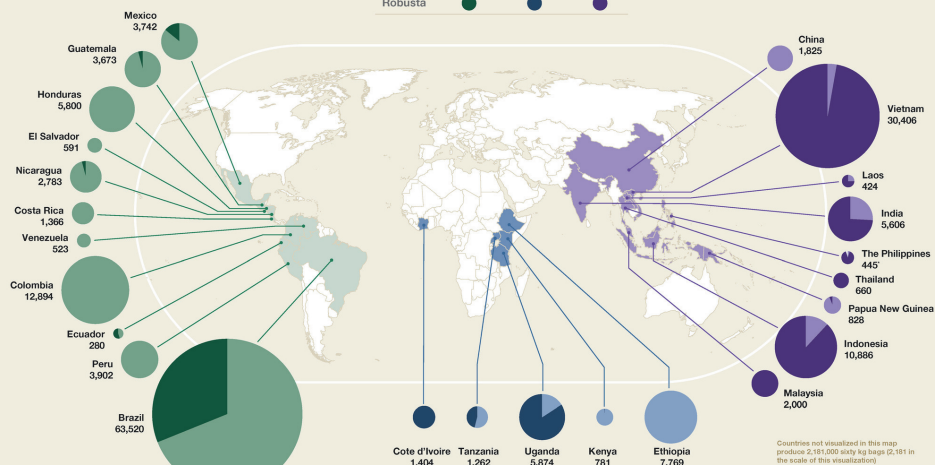


World Dispersal & Production of Coffee

Modern Arabica & Robusta Production

(Average 2018 – 2022, thousands of 60 kg bags)

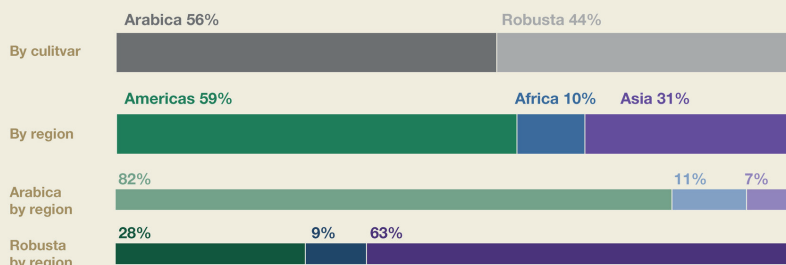
	Americas	Africa	Asia
Arabica			
Robusta			



Countries not visualized in this map produce 2,181,000 sixty kg bags (2,181 in the scale of this visualization).

* The Philippines produces 5% Liberica, including Liberica var. Deweenai (aka Escalita)

Production Share (2018 – 2022)





The Age of Guided Hybridization

Beginning in the middle of the 20th century, human involvement in Arabica's evolution became increasingly active. The idea that cultivars could be designed for specific purposes followed the suit of many agricultural crops across the planet. For coffee, intentional breeding and selection of cultivars in test plots and research labs became common practice. Among the many goals breeders pursue, improved harvest volumes and resilience to disease, pests, and climate are often the top priorities.

Among the earliest popular hybrids was a cultivar called **S. 795**. Released in 1946 by India's Central Coffee Research Institute (CCRI) as "Selection 3," it is still grown widely in both India and Indonesia (where it's frequently known as **Jember**, after its namesake research station in East Java, through which it was introduced to the region beginning in 1955). It is bred from Kent and an interspecific hybrid of Liberica and Arabica known as **S. 228** (CCRI's "Selection 1"), whose development dates back to the mid-1930s.

Catimors and **Sarchimors** were planted first in 1967 in Brazil, after development in Portugal. The many cultivars that shelter under these two umbrella designations follow a simple recipe to improve cup quality but retain Robusta's signature hardiness and high yields: a short stature Bourbon mutation (Caturra or Villa Sarchi) is bred with a Timor Hybrid to create a mostly-Arabica tree.

Innumerable variations on this theme populate most of the globe's generic Arabica groves, and some have proven capable of standing toe-to-toe with legacy cultivars in terms of cup quality. Many of these hybrids involve multigenerational selection and backcrossing in an effort to create improved genetic resilience and plants that reproduce true to type, such as the **Colombia** cultivar (a F5 Catimor) released in 1982. Popular local Sarchimors include Brazil's **Obata** and Honduras' **Parainema**, while Catimors grown in India under the designation **Cauvery**^{*****} (CCRI "Selection 12"), and other worldwide favorites include **Cat129** and **Costa Rica 95**.

^{*****}"Cauvery" is an anglicized cognate of Kaveri, the name of India's river which flows through the coffee lands in Karnataka and Tamil Nadu



In other parts of the world, novelty and improved cultivars became an area of interest. Mundo Novo is a naturally occurring Typica-Bourbon hybrid first observed in 1943 in the Sao Paulo state of Brazil, which was then intentionally crossed with Caturra to create Catuai, a short-stature tree with improved resilience. The hybrid began development in the 1940s but wasn't released until the 1970s.

Similarly, Pacamara spent nearly 30 years in development at the Genetic Department of the Salvadoran Institute for Coffee Research (ISIC), taking El Salvador's dwarf Bourbon mutation (Pacas) and crossing it with the gigantic Maragogipe mutation of Typica.



Diversification of Arabica in the 21st Century

The extent to which coffee plant types have been globalized, the increased frequency of farmers planting atypical trees in test plots, ongoing research and development (particularly in exciting but unstable F1 hybrids) and the relative genetic plasticity of Arabica have all contributed to an immensely multifaceted environment today.

Increasingly complex hybrids, such as **Castillo** in Colombia, and Ruiru 11 in Kenya have become difficult for the casual observer to trace, in part due to gated proprietary genetic baselines. Castillo is essentially an improved Colombia-style Catimor, while Ruiru is a mess of a mix between Bourbon, SLs, Sudan Rume, HdT, and short stature Catimors which are bred separately into “mother” and “father” plants and then crosspollinated manually! The Ruiru 11 formula was eventually rewritten, improved, and released as Batian a few years later.

Others, like Centroamericano, follow simple recipes but were developed across wildly divergent regions. This tree began as a collaboration between a Central American consortium and the French research institute CIRAD, crossing the Rume Sudan landrace with T5296 (a Sarchimor selected from the Portuguese collection first tested in Brazil in 1971, then sent to Costa Rica in 1978). This recipe was then selectively bred prior to distribution throughout the Americas beginning officially in 2010, a truly global coffee plant.

Among the most visible new plants in the Americas are superstar cultivars like Colombia’s **Chiroso** and **Wush Wush** (presumably related to Ethiopian landraces directly), Ecuador’s Bourbon/Ethiopian landrace hybrid **Sidra** (developed using Nestle research grants), and Starmaya, the Nicaraguan CIRAD-ECOM collaborative hybrid of **Marsellese** (a Sarchimor) with an Ethiopian/Sudanese landrace selection. Meanwhile India and Indonesia quietly develop new cultivars with frequency and little fanfare.



For the infographic, we've included a selection of modern trees that we felt best represented geographical interests and transparent genetics without overcrowding an already busy visualization.

It's also worth noting that coffee's detailed genetic tree can get a little fuzzy. Lots of interesting stories are told, some of which misrepresent truth (either incidentally or by design). And, as Pruvot-Woehl, et al., noted in research published in 2020, "genetic conformity of coffee material is frequently questionable. We believe this is primarily due to the lack of order and good practices in the coffee seed sector." Despite its critiques, the report concludes on a surprisingly upbeat note, however, encouraged by the increasing diversity of coffee plant types grown worldwide.

The story of Arabica's journey from Ethiopia to where it's grown today is far more complex than one infographic or essay can convey. We hope this new World History of Arabica Coffee Cultivars can create traceable histories and geographies for the world's most common variety groups, which are easy to understand and visualize.



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Royal Coffee

Royal Coffee is a family-owned and operated importer of specialty green coffees, serving the international roasting community. Founded in 1978 by Bob Fulmer and Pete McLaughlin in a tiny office on Hollis St., the company began with the purchase of a single bag of coffee that Bob and Pete used as a desk until they found a buyer for it. They turned the proceeds of the first sale into two more bags, and the rest is history.

We now import the finest coffees in the world, from over 30 countries of origin and a vast network of producing partners. Royal supplies some of the top roasting houses around the globe, from warehouses in Oakland, Seattle, Madison, Houston, Shanghai, and Vancouver. Our humble roots continue to inform our day to day operations though, as many of our clients get their start with us buying a single bag of coffee.

Regardless of how you buy from Royal, we hope that you will stop by The Crown: Royal Coffee Lab & Tasting Room to experience our favorite coffees, thoughtfully prepared. Join us for a class, event, tasting or cupping in the heart of Oakland. We offer cutting-edge original workshops, CQI courses & guest curricula by the industry's thought-leaders.

Chris Kornman

Chris Kornman is a seasoned coffee quality specialist, writer and researcher, and the director of education at The Crown: Royal Coffee Lab and Tasting Room in Oakland, California.

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