

**Julius Caesar kept a cache of it in the government treasury and the Greeks even put it on their money. It was worth its weight in gold – but no one knows if it still exists.**

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**By Zaria Gorvett**

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Long ago, in the ancient city of Cyrene, there was a herb called silphium. It didn't look like much – with stout roots, stumpy leaves and bunches of small yellow flowers – but it oozed with an odiferous sap that was so delicious and useful, the plant was eventually **worth its weight in gold**.

To list its uses would be an endless task. Its crunchable stalks were roasted, sauteed or boiled and eaten as a vegetable. Its roots were eaten fresh, dipped in vinegar. It was an excellent preservative for lentils and when it was fed to sheep, their flesh became delectably tender.

Perfume was coaxed from its delicate blooms, while its sap was dried and grated liberally over dishes from brains to braised flamingo. Known as “laser”, the condiment was as fundamental to Roman haute cuisine as eating your food horizontally in a toga.

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Then there were the medical applications. Silphium was a veritable wonder herb, a panacea for all manner of ailments, including growths of the anus (the Roman author Pliny the Elder **recommends repeated fumigations with the root**) and the bites of feral dogs (simply rub into the affected area, though Pliny warns his readers never, ever to try this with a tooth cavity, after a man who did so threw himself off a house).

Finally, silphium was required in the bedroom, where its juice was drunk as an aphrodisiac or applied “to purge the uterus”. It may have been the **first genuinely effective birth control**; its heart-shaped seeds are thought to be the reason we associate the symbol with romance to this day.

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*Pliny wrote that within his lifetime, only a single stalk was discovered*

Indeed, the Romans loved it so much, they referenced their darling herb in **poems and songs**, and wrote it into great works of literature. For centuries, local kings held a monopoly on the plant, which made the city of Cyrene, at modern Shahhat, Libya, the richest in Africa. Before they gave it away to the Romans, the Greek inhabitants even put it on their money. Julius Caesar went so far as to store a cache (1,500lbs or 680kg) in the official treasury.

But today, silphium has vanished – possibly just from the region, possibly from our planet altogether. Pliny wrote that within his lifetime, only a single stalk was discovered. It was plucked and sent to the emperor Nero as a curiosity sometime around 54-68AD.

With just a handful of stylised images and the accounts of ancient naturalists to go on, the true identity of the Romans’ favourite herb is a mystery. Some think it was driven to extinction, others that it’s still hiding in plain sight as a Mediterranean weed. How did this happen? And could we bring it back?





Silphium is thought to have been a close relative of asafoetida (Credit: Alamy)

Legend has it that silphium was first discovered after a “black” rain swept across the east coast of Libya over two and a half millennia ago. From then onwards, the herb spread its broad roots ever further, growing luxuriantly on lush hillsides and forest meadows.

It might sound strange – after all, North Africa is hardly famed for its greenery, but this was Cyrenaica, a land of tiered highlands with an abundant water supply. Today parts are known to receive up to **850mm of rain** (34in) per year, which is nearly as wet as Britain.

The region was originally settled by the Greeks and annexed by the Romans in 96BC, followed by Cyrene a couple of decades later. Almost immediately, silphium stocks began to decline at an alarming rate. Within 100 years, it had disappeared altogether.

The thing is, the fussy plant *only* grew in this region. Its entire range consisted of a narrow strip of land about 125 miles (201km) by 35 miles (40km).

Try as they might, neither the Greeks or the Romans could work out how to farm it in captivity. Instead silphium was collected from the wild, and though there were strict rules about how much could be harvested, there was a thriving black market.

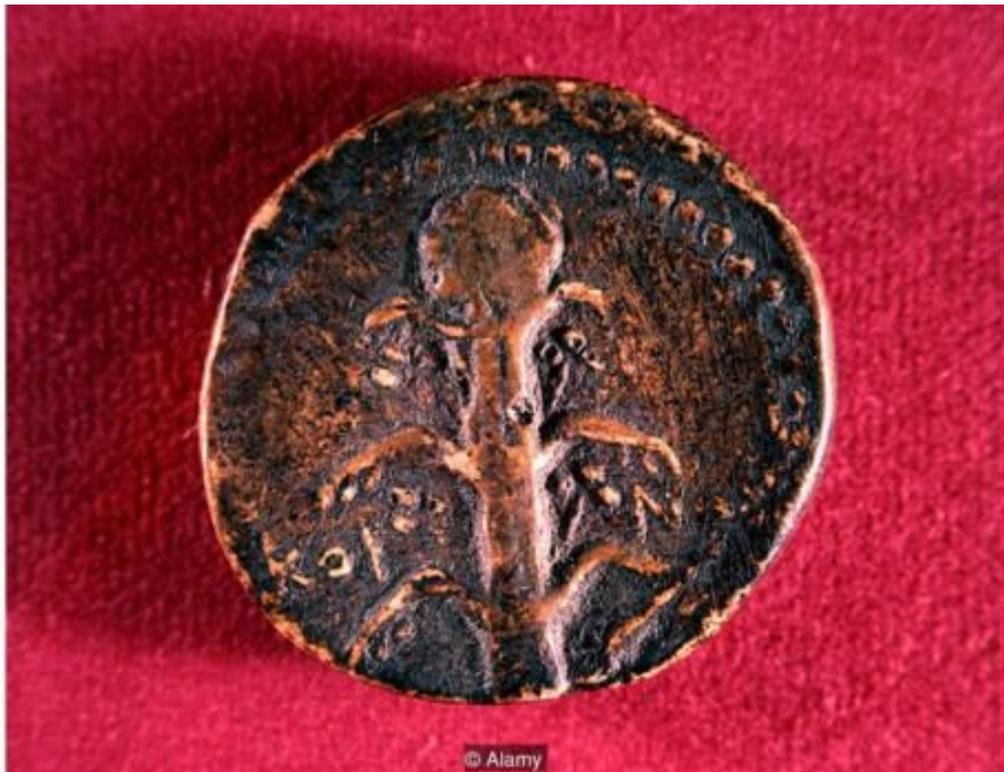
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*The herb stumped even the most enthusiastic plant geek of the day, Theophrastus*

The dried sap was sold on the streets by unscrupulous “laser dealers” for sky-high prices. They’d say pretty much anything to get you to buy their product, including pawing customers off with the notoriously stinky asafoetida. The spice is popular in India and Central Asia today, where it lends its garlicky notes to dahls, meatballs and roasted vegetables. But now, as in classical times, it is known primarily for its powerful sulphurous smell, like a mixture of dung and overcooked cabbage. Its Latin name means “fetid gum”.

The Romans considered asafetida a reasonable substitute, but some swaps were harder to swallow. It was regularly adulterated with rubber or ground beans, while other spices such as black pepper were bulked out with cheap mustard from Alexandria or even juniper berries; bitter, astringent, best known as the principal flavor in gin, they’re hardly a perfect match, but “...well, they’re a similar size,” says Erica Rowan, a

classical historian from the University of Exeter.



Silphium was so fundamental to Cyrene's economy, the locals stamped its image on their money (Credit: Alamy)

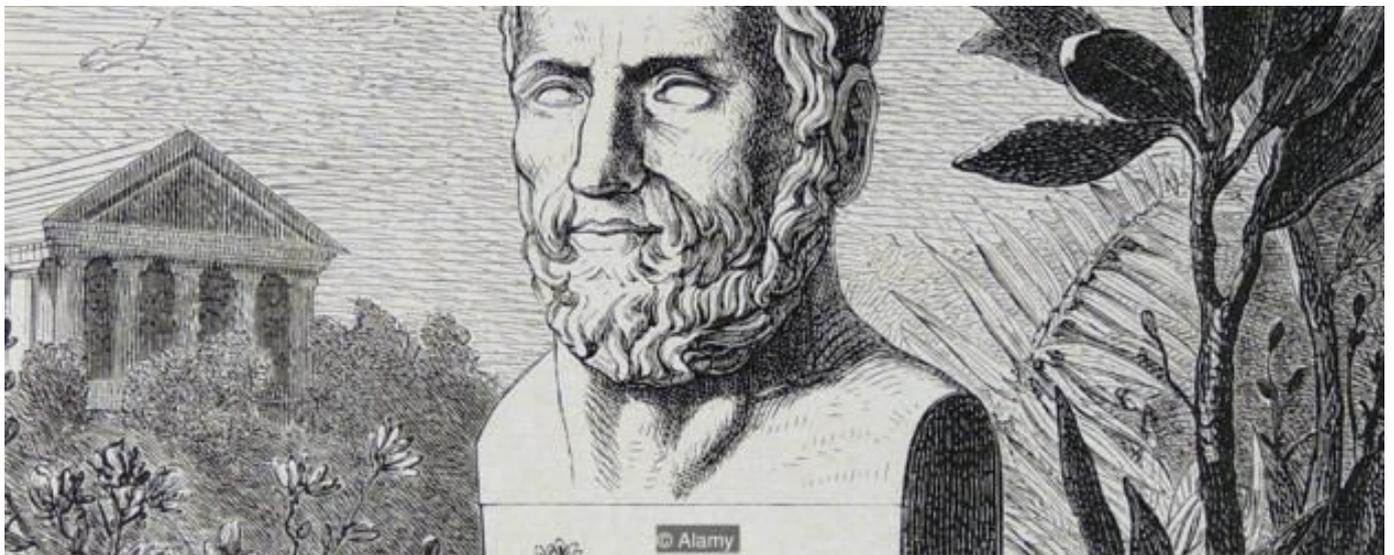
Central to this botanical riddle is the fact that silphium couldn't be farmed. But why?

The herb stumped even the most enthusiastic plant geek of the day, Theophrastus. Widely known as the father of botany, this Greek author was best friends with another giant – Aristotle, the father of biology – and wrote extensively about the characteristics of plants. Though he didn't understand why it couldn't be cultivated either, he observed that they tended to grow best on land which had been dug up the previous year.

There are several possible reasons for this. "Often the issue is the seeds," says Monique Simmonds, deputy director of science at Kew Gardens, London.

Take poppies. A single plant can produce up to 60,000 seeds, which means that, assuming 90,000 plants, a single field may contain around 5.4 billion. But they must be exposed to light to grow. Without it, they'll just sit there until they're eaten or begin to rot. For this reason, poppies thrive on disturbed land where light can creep into gaps in the soil, such as the battlefields of World War One.





Theophrastus is known as the father of botany (Credit: Alamy)

But there are other explanations – and perhaps the best place to look for clues is a plant that has eluded farmers to this day.

Every year, hundreds of thousands of people descend on America’s National Parks, from the Pacific Northwest to the mountains of Montana and Idaho. Instead of hiking gear, they’re armed with baskets, pots and pans, ready to brave **grizzly bears** and territorial **gunfights** in pursuit of one of the most coveted fruits on the planet: the huckleberry. The tart red berries are added to jams, sauces, pies, ice creams, snow cones, daiquiris, and even curries – and every year, demand exceeds supply. But there isn’t a single commercial huckleberry farm on the continent.

After early colonial settlers failed to bring the berry to Europe, serious efforts to cultivate the plant began in 1906. More than a century later, the stubborn shrub still hasn’t yielded to captivity. When they’re grown from seed, they are mysteriously devoid of fruit.

The huckleberry is native to the mountain slopes, forests and lake basins of North America. The plant has wide, sprawling roots topped by a bush which grows out of an underground stem.

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*Replanting them would be like trying to grow a pile of leaves*

Lacking a dense, centralised root system makes them especially difficult to replant. Early huckleberry farmers made an easy mistake, digging up their long underground stems instead of the roots. Replanting them would be like trying to grow a pile of leaves.

But now that they’ve defied the best efforts of modern botany, it looks like there really is no secret trick to growing

them. Instead the answer is thought to lie in their natural habitat. “The plants growing in an area can have a big impact on its soil chemistry,” says Simmonds. Farming inevitably alters the balance of elements such as magnesium in the soil, so some plants will never grow well on cultivated land. As of 2017, the only way to grow more huckleberries is to clear some woodland and leave them well alone.

According to Kenneth Parejko, emeritus professor of biology at the University of Wisconsin-Stout who has **studied the silphium enigma**, wildflowers are particularly sensitive to this. “Here in the northern US there are many growing in the prairies, but if you try to take them to plant in your garden – as I have – they don’t survive at all.” On some level, the ancient Greeks may have known this. After attempting to grow silphium in Europe, they wondered if their land might be missing a “humour” necessary to nourish it.

But there is another possibility: silphium was a hybrid. Crossing two separate species can have delicious or handy results. When you mix a male camel with a female llama, their cama babies have all the wool-producing talents of their mother and the size and strength of their father. It’s the same story for garden strawberries, which are a cross between North American and Chilean varieties; they’re bigger and juicier than either of their parents. Meanwhile, the oddly-named **Toast of Botswana**, a one-of-a-kind hybrid of a male goat and female sheep, was an exceptionally fast grower and extraordinarily resilient to disease (it was also unexpectedly lustful, and had to be castrated).



Like the spice asafoetida, laser would have been made from the milky sap of the silphium plant’s roots (Credit: Alamy)

The trick is well known today. One of the most widespread hybrids is corn, which is produced to the tune of around 14 billion bushels (360 million metric tonnes) every year. But while the first generation produced by such unions can be highly desirable, *their* offspring usually aren't in the same league. Second-generation hybrids are extremely unpredictable, as the dominant genes from either parent begin to take over and tip the balance of their features. In the end, you might end up with an animal with the temperament of a llama and the wool-making abilities of a camel.

In wild plants, this isn't a problem. In fact, the hybridisation only needs to happen once – from then on, the plants don't grow from seed, but asexually, by spreading their roots. This is the case with the cemetery iris, *Iris albicans*, which produces fragrant white flowers traditionally planted on graves in Muslim regions. It has double the usual number of chromosomes and is completely sterile – yet it has been going strong since its parents met in the Middle Eastern desert thousands of years ago.

If silphium were a mongrel, when the Greeks tried to grow some from seed the result could have been barely recognisable. Intriguingly, this fits with ancient reports of silphium from Media (northwest Iran), Syria and Parthia (northeast Iran), which was much less valuable than the stuff from Cyrene. Given the liberal substitutions in ancient markets, it's possible that these products weren't silphium at all – but maybe, just maybe, they were the weedy descendants of a hybrid.

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*They might have grazed it right down to the roots and killed it – Kenneth Parejko*

Either way, the ancient lust for true silphium proved too much. Pliny the Elder wrote that Roman landlords had been forced to fence off the herb's meadow habitat to stop local sheep from devouring the whole lot. “They might have grazed it right down to the roots and killed it,” says Parejko.

Eventually the locals rebelled, tearing the fences down to increase the value of their flock; silphium-fed sheep were the ancient equivalent of Wagyu beef. Amid rising tensions, sometimes they'd break in just to sabotage them.

The herb was being attacked from all sides – overharvested and overgrazed. And throughout it all, it may also have been undermined by its own biology. The Greeks had strict rules about how much of the root could be harvested at one time, which suggests that if enough was left in the ground, it would bounce back. But inevitably the economics of supply and demand kicked in. As the plant's value increased, unscrupulous smugglers may have taken the whole lot. “If you're going to take the roots, you really need a plant that grows well from seed,” says Simmonds.





Despite centuries of trying, the huckleberry has never been successfully farmed (Credit: Alamy)

The story of silphium's decline is depressingly familiar today. Medicinal herbs are a multi-billion-dollar industry and growing. Many are under threat from climate change and development – and to add insult to injury, the vast majority are collected from the wild. In South Africa alone, 82 medicinal herbs are threatened with extinction and two have already vanished.

Meanwhile the bluefin tuna, which swims in the waters off the coast of Libya has still, after decades of trying, never been raised successfully from egg to adult. Like silphium, the latter is becoming ever more profitable as it edges closer to extinction. In early 2017, a single fish was auctioned for **£517,000 (US \$668,000)**.

But there is a glimmer of hope. There have only been a handful of studies on the plant diversity in Libya – if even a few plants escaped the clutches of the Romans, it may still be found. “It could absolutely still be there. It’s not an easy country to survey,” says Simmonds.

Of course, this is made slightly trickier by the fact that no one knows what they’re looking for. “We tend to find the seeds of other plants, such as coriander and dill, at ancient sites. But no one has ever found silphium,” says Rowan.

Theophrastus described the plants as having **thick roots covered in black bark**. They were extravagantly long; if you were to hold one up against the human body, it would be around the distance from the elbow to the tip of the middle finger (an ancient unit of measurement known as a cubit). Though the plant was “most peculiar”, he said it had a hollow stalk a bit like fennel and golden leaves which resembled those of

celery.

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*It could absolutely still be there. It's not an easy country to survey –*  
*Monique Simmonds*

The ancient coins which bear its image show a plant with flowers arranged in what botanists call a “large apical umbel”, which Parejko describes as a disc like the end of a watering can. “It would have looked quite conspicuous,” says Simmonds.

Theophrastus compared it to another herb, *Magydaris pastinacea*, which grew in Syria and on the slopes of Mount Parnassus near the Greek city of Delphi. He believed both were “spineless under shrubs” related to fennel.

He may have been onto something. Scientists now think that, like asafoetida, silphium may have belonged to a group of fennel-like plants, the *Ferula*. They are actually related to carrots and grow wild as weeds across North Africa and the Mediterranean. Incredibly, two of these plants – giant Tangier fennel and giant fennel – still exist in Libya today. It's possible that one of these is silphium.

So could silphium make a comeback? According to Rowan, even if the herb isn't extinct, it probably wouldn't be to modern tastes – in the Western world at least. “There's a whole bunch of seasonings that the Romans used to use, like lovage, that today most people haven't even heard of,” says Rowan. Back in the day, lovage was a staple of the Roman dinner table. Today it's virtually impossible to buy, consigned to niche online shops and obscure corners of garden centres.



The ancient herb may be hiding in plain sight as giant Tangier fennel (Credit: Wikimedia Commons/Yan Wong)

In fact, Roman cuisine wasn't at all like Italian food. It was all about contrasting sweet with salty and sour foods (they liked to eat fishgut sauce, garum, with melon). Instead Rowan compares it to modern Chinese food. "If it was edible, they were eating it – nothing was off the table," she says.

If you'd like to see for yourself, why not try this Roman recipe for braised flamingo and parrot, substituting asafoetida for laser.

*Scald the flamingo, wash and dress it, put it in a pot, add water, salt, dill, and a little vinegar, to be parboiled. Finish cooking with a bunch of leeks and coriander, and add some reduced must [condensed grape mush] to give it color. In the mortar crush pepper, cumin, coriander, laser root, mint, rue, moisten with vinegar, add dates, and the fond [drippings] of the braised bird, thicken, strain, cover the bird with the sauce and serve. Parrot is prepared in the same manner. **Apicus 6.231***

We may never learn the true identity of silphium, but we can learn from its decline. The last survey of Cyrene showed that many species are **rapidly disappearing**, as land is given over to deserts and once again, it's overgrazed. The Roman Empire may be long gone – but it seems we're repeating the same mistakes.

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