

Passiflora

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sub sole sub umbra virens



THIS MONTH'S ISSUE Passiflora 'Soi Fah'. Propagating *Passiflora paritae* via layers. *Passiflora favardensis*. Passion flower hybridization. Benefits of the passion fruit. European PSI Meeting.

Letter From the Editor



Issue 1

Cover June 2011
Passiflora 'Soi Fah', photo by
Rosie Gan

Passion flowers. The name itself, although religious in origin, evokes an exoticism which is fully matched by the remarkable foliage, flowers and fruit of these wonderful climbing vines and trees. Indeed *Passiflora* as a genus have a unique ability to greatly vary their leaf shape, much to the bewilderment of herbarium collectors. Further the flowers perhaps are matched only by the *Orchidaceae* for their rich variety as they

compete for the attentions of the pollinators, from bat to bee to hummingbird, with their striking shapes and perfumes. With regard to the fruit many are inedible or taste bland to us, but there are about sixty or so that have seeded pulp with an intense distinct aromatic taste and intoxicating smell, which renders any fruit juice cocktail 'tropical'.

Europeans first became aware of *Passiflora* when Catholic priests bought them back from the jungles of South America in the 17th Century. Interest in them peaked with the great explorers and collectors of the 19th Century, particularly in Great Britain, who took a delight in growing *Passiflora* and other exotic plants in hothouses. They became less fashionable in the early 20th Century, but now there is worldwide interest in them both as a commercial crop, as an exotic decorative addition to our gardens and as herbal medicines. Much of this revival is due to the enthusiasm of John Vanderplank and Cor Laurens who rediscovered these plants in the 1980's in Europe, while at the same time in the USA Partick Worley was creating his first hybrids. Furthermore, Ron Boender of Butterfly World founded the Passiflora Society International in 1990. Through the wonders of the Internet, *Passiflora* now have enthusiasts worldwide.

The tragedy of the deforestation of the Amazonian Rainforest leads us to ask how many species are being lost even before they have been found. So it is incumbent on us all to work together to do everything we can do collectively to preserve these wondrous species and their hybrids. ✿

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All *Passiflora* enthusiasts are invited to submit—from amateur growers to commercial growers to horticulturalist to botanist. Accepted submission will be electronically published in PDF format.

We welcome any contributions that are *Passiflora*-related, from scientific papers and reports of wild collecting trips to garden tales, recipes, and growing tips.

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Propagating *Passiflora parryi* via layers

by William Harberts

Propagation of *Passiflora parryi* via cuttings is not easy, so I decided to try it via layering, which is a commonly used technique with other plants that are difficult to root from cuttings. I describe the successful method I use in the following pages.

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Setting up the layers

I start with a hardening, semi-woody vine that is branching and shows the beginnings of secondary growth. When buried, this vine is called a whip.

Here is a short section of the young end of one whip showing the branching and woody appearance at the older end.



I dig a trench, lay the entire whip in the trench, pull the side-shoots up above ground, fill the trench, trim any side shoots that are too long, mulch, and keep moist. This one still isn't mulched yet.

I have tried promoting root growth by injuring the plant and by applying rooting hormone. However,

neither seems to make a difference, so this one is not injured and has no hormone. Likewise, serpentine layering (where the whip is alternately above and below ground), rather than trench layering, is not productive.



Lifting the layers

Above are three now rooted side-shoots with their mulch still in place. The below-ground whip these shoots come from starts to the left and ends to the right where 17 layers I previously lifted were removed.

Next is a shot from above, looking down with the mulch and some of the soil removed from above the whip. The buried whip is rooting, and on the left is one of the side-shoots heading up. The visible part of the side-shoot had no light, and is thus beige rather than green.





Above you see soil removed to the side of and below the whip. The blunt tip on the right end of the whip is where the prior layers were lifted. Only these two additional layers were extracted, leaving the third to mature and become a whip for a repeat of this whole process.

Once lifted, the whip and two side shoots appear as below.





The beige to green transition on the side-shoots marks how deeply they were buried plus the depth of the mulch over the soil. Notice the roots all along the whip, which measures $8 \frac{3}{4}$ inches (22.2 cm) in this shot.

When turned over you see the roots on the other side (below). Notice they are heavier on the (now) left end than the right end, but are present for the entire length.



Also note that at this stage root growth is exclusively along the whip; the roots are not forming on the bases of the side-shoots in either layer, nor are they restricted to the area immediately around a node. Later, however, roots do develop on the bases of the

side-shoots. I have pulled several layers from my first attempt to layer *P. parritae* out of their pots and roots do form at the bases of the side shoots. Therefore, they should be potted deeply enough to allow for that future root growth from the side-shoots.



Above, I cut the whip to a length that will fit diagonally into a 4" (10.2 cm) pot and cut the top way back (if needed) to what I think the roots will be able to support while they reestablish in the pot

Next, I end up with two layers in 4" (10.2 cm) pots and show the top growth which was removed.

It was 9 weeks from the time I set up the layer until I lifted the first 17 side-shoots. Three weeks later I lifted the two shown here and I still have one left in the ground to pinch, let branch, and use to set up the next layer.

All the top growth you see cut off above came from only one of the two layers lifted. One layer had been in a dimly lit area behind an azalea and had no growth cut off when I lifted it. The other layer, which had all the growth in the foreground removed from it, had grown into more light over the azalea. The poorly lit side-shoot (in photo in small pot above) had fewer roots and less top growth. The side-shoot in abundant light had more top growth and more numerous, hardier roots.



Results

A few weeks after they were lifted, the first layers lifted looked like this:



Next steps

Under what circumstances this works well is open for discussion. After I reported success with my first attempt, two *Tacsonia* growers with more experience than I decided to try layering *P. parritae*. They had more limited success, but I suspect it was because they used younger whips.

The key might be working with a whip that shows secondary growth. In primary growth, the nodes are typically the place where there is a patch of residual meristematic tissue that can generate root or shoot primordia. However, in the photos above you can see that nodes did not generate the roots, quite conversely, the inter-nodal portions did. The buried whip is considerably larger in diameter than the side shoots and rather woody, indicating that there has been lateral growth, which would have come from a lateral cambium. The few cuttings that do root successfully might do it because some parenchyma cells have divided, reverted to meristematic tissue, and generated root primordia. I have had no shoots come up from buried nodes that did not have a side shoot when I set up the layer, nor have I seen roots develop on the side-shoots until well after they have been

lifted, potted, and started to show secondary/lateral growth of their own.

I see nothing that would indicate that there is any functioning meristematic tissue capable of generating root primordia at the nodes in the primary tissues of *P. parritae*.

A number of plants layer and/or strike roots from semi-hardwood or hardwood cuttings much better than from soft growth. *P. parritae* might well be such a plant, accounting for the discrepancy in layering between myself and others. Using older material with a lateral cambium in place might also improve the success rate when trying to propagate *P. parritae* via cuttings, although that would also result in loss of considerable primary tissue.

Layering may also be worthwhile to propagate other hard to root *Passiflora* such as *P. membranacea* and *P. umbilicata*. ❁

William Harberts is an amateur gardener whose first love is *Lapageria*. He also enjoys growing *Tacsonia*.

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The curious tale of *Passiflora* 'Soi Fah'

by Rosie Gan and Myles Irvine

In 2005 Venkat Venkataraju contacted *Passiflora* Online for help to identify a *Passiflora*. He comments, 'I have come across a *Passiflora* species in Tirupati, Andhra Pradesh, India (13°39'N, 79°25'E). I don't have a better picture of this one or its fruits. The plant was obviously being grown as an ornamental plant.'

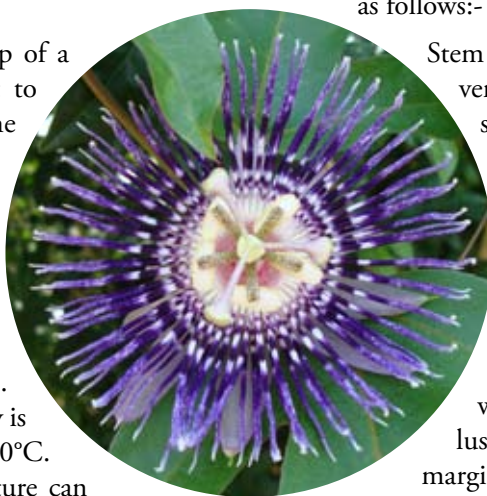
Tirupati is a temple town on top of a hill in South India. It is thought to be the busiest pilgrim centre in the whole world with the shrine of Lord Venkateshwara the main attraction. The local people believe that this flower, which is grown around the temples, represents the legend of Mahabharata.

Tirupati has a very tropical climate. Winter from November to February is quite pleasant with a minimum of 10°C. From March to June the temperature can climb to an incredible 45°C – it is remarkable that any *Passiflora* can survive that. From July onwards there is an intermittently sultry and humid monsoon season with cooling breezes arriving in October.

This beautiful but mysterious flower was quite unknown to us. Initial emails and postings to forums received no response until noted hybridizer Frank Moser suggested the flower was very similar to that of an unreleased *P. incarnata* x *P. laurifolia* hybrid of his.

There the matter lay until 2008 when Maurizio Vecchia, Veerakit Haparipum and John Vanderplank, having found the plant growing in Thailand, named it as *Passiflora* 'Soi Fah'. The name means 'necklace of

the sky' and derives from Thai mythology: an angel with a perfume of fragrant flowers. It is believed to have been cultivated in Thailand for over 100 years. The plant as well as being in cultivation in India, is also in Malaysia and now in Europe. It may well be found in other Asian countries too. They describe it as follows:-



Stem round; flowers 7cm in diameter, very fragrant; petals light purple; sepals light purple, green on abaxial surface with 0.3cm awn; two outer series of corona filaments banded dark purple/white, two middle series 0.5cm long, white/speckled purple, four inner series 0.3cm long, pale red; peduncle 4.5cm; leaves 3-lobed, 14cm long x 19cm wide, coriaceous, adaxial surface lustrous, abaxial surface glaucous, margin denticulate; petiole 4cm with 2 sessile glands near leaf base; bracts 1.2 to 1.7cm long x 0.7 to 0.8cm wide with 2-4 large glands. Minimum temperature ca. 10°C.

They suggest that it is *P. caerulea* x *P. laurifolia*? It is perhaps more likely to be *P. incarnata* x *P. laurifolia*. This opinion is based on its heat resistance, the morphology of the flower and foliage and particularly the petiole glands being hard up against the leaf which strongly suggests *P. incarnata* parentage. Cuttings being a little difficult compared with layering is also a typical characteristic of *P. incarnata* and its hybrids.

The mystery of this fabulous hybrid will endure with the breeder forever to remain unknown.

~Myles Irvine

An account of *Passiflora* 'Soi Fah'

By Rosie Gan

My fine romance with the passion flower is far from over. I am still fuelled with passion for this exotic flower, after twenty years of first getting to know her! In the early days, I used to be totally infatuated with her. My every thought was... would she appear on my chain-link fence where she dwelled, when I woke up the next morning? I literally pined for her presence, and if there weren't any buds on the vines in the morning, I would be forlorn. I spoke of nothing but her...her exotic beauty, her heady perfume, her delightful charm.



Today, in a new neighbourhood, she graces the pergola in my garden, resplendent in her deep purple attire. She is my pride and joy ...the jewel in the crown of my garden haven.

Today I found that I have a rival for her affections. She has a self-appointed guardian who stays by her side, refusing to be scared away by my presence.





Seeing how dedicated the chameleon* is to her new-found love, I concede defeat. As long as she is there to protect her, I shall consider her my ally, not foe.

Plant profile

This hardy vine grows very well in the tropics. In Malaysia where I am gardening, the tropical climate is suitable for the vine, even in the hot season which could reach a high of 35°C. It is the humidity that the vine thrives upon. There is abundant rain in the monsoon season (the annual southwest monsoon from April to October, and the northeast monsoon from October to February).

This plant grows well on loamy soil, but can survive on most types of soil. The *Passiflora* 'Soi Fah' flowers the whole year round, and the blooms are plentiful. You can find as many as 8 buds along one trailing vine, and the buds bloom one at a time. Each flower blooms for a day, but the large number of buds result in a prolific production of blooms on a daily basis.

The blooms have a subtle perfume that is truly remarkable. It is not an overwhelming heavy perfume, but a fragrance that is pleasant, like that of a rose.

The 'Soi Fah' does not bear fruit. It is strictly a flowering vine.

Propagation is possible by taking cuttings, but the more successful method is by layering. Once it takes root, the plants grow fast and the growth can be invasive.

Who wouldn't be enamoured of this beautiful species of *Passiflora*? Not only is she fabulous to look at, she is easy to maintain and a resilient character to top it all. ✿

Rosie Gan is a garden and travel-blogger; she has 25 years of gardening experience. She writes about botanic and private gardens that she visits in her travels.

Blog: <http://mygardenhaven1.blogspot.com/>

**Editor's note. This is a female Calotes versicolor. (Agamid Lizards. Ulrich Manthey and Norbert Schuster 1996 TFH publications.) Known as the 'Oriental Garden Lizard' or 'Bloodsucker' it is not a true chameleon but a dragon lizard more closely related to the Iguanas. It has chameleon-like characteristics with the head and shoulders of the males in the breeding season turning bright orange to crimson and the throat black. Like the true chameleons it can also move its eyes independently.*



P. samoensis



P. aurantia

Studies on *Passiflora*: Species complexes

by Yero Kuethe

Have you ever wondered how many different species of *Passiflora* exist? To be precise, there are 587 recognized species and this number continues to increase. Unfortunately, only 150 to 200 of these species are in cultivation. The book *Passionflowers of the world*, by J.M. MacDougal and T. Ulmer published by Timber Press (2004) revised 300 species including 31 hybridized species. With brilliant photographs, individual descriptions and leaf drawings, this book greatly enhanced our cumulative knowledge of *Passiflora*.

The PPI intends to build upon this work by completing accurate descriptions of the remaining 287 species. Due to the lack of accurate information available about these species, sometimes existing species can be accidentally registered as new species. Likewise, new varieties of species that are registered may actually be distinct species. This introduces the concept of species complexes, in which one common species actually consists of three or more different and distinct species. For example, *P. coccinea* is now divided into 9 separate species. Another is the commonly grown *P. foetida*, with more than 50 described varieties.

It is thought that there are many species complexes yet to be resolved. For instance, most people have never heard of *P. samoensis*. It was discovered in the Pacific region by Bertram Henry Buxton in May, 1924. The species has been known for years, but many times erroneously named as *P. aurantia*.

P. aurantia is a species complex which has been overlooked until now. By comparison with the herbarium materials and by studying the original description of both species, the PPI managed to rediscover the fourth *Disemma*: the overlooked *P. samoensis*. Of course internal variations within a species occur, which is why the synonym of *P. aurantia*, *P. banksii*, discovered by Joseph Banks in 1770, became reassigned as a variety of *P. aurantia* in 1911, instead of a separate species.

Whether a plant or flower passes as species or variety depends on several criteria. A species is often defined as a plant that is capable of interbreeding and producing fertile offspring. Hybridized *Passiflora*, the combination between two different species, such as the popular *P. x belotii*, may not be capable of producing fertile seeds. The parent species, *P. caerulea* and *P. alata*, are both typological species. This means that both species are morphologically and genetically



too far apart, and classified by just a few common characteristics.

Hybridization does not always cause infertility. Cross-pollination between two ecologically and morphologically related species can result in a phylogenetic species. The phylogenetic plants are reproductive, and capable of producing fertile offspring. At some point in the progress of such species, members may diverge from one another. When these divergences become sufficiently clear, you get two new separate species, similar enough to be confused with the other members. A species complex is the result.

But there is more. We know that internal variability due to short-range evolution can occur by phylogenetic species with new species as the result. Most of the existing species complexes are covering 'old' species, originally described centuries ago. The original description of these species may be wanting, faded, or inaccessible for copyright reasons.

This results in a lack of information about the real appearance of a species. We may incorrectly assume that all species which are scarlet red are *P. coccinea*. All orange species from Australia must

be *P. aurantia*. All species with shiny unlobed leaves and a large blue corona are inevitably *P. nitida*. Herein lies the interesting part, and the current project of the PPI. Several weeks ago, we obtained the original transcription of the *P. nitida*, dating back to 1817. Translating the Latin description by Kunth reveals another amazingly difficult complex to interpret.

Any of these four pictures above seen individually would probably be identified as *P. nitida*, am I right? Seeing these pictures displayed together however you can see that they are of four totally different species! But which one is the real *P. nitida* found by F.W. von Humboldt along the side of the river Río Orinoco in the Venezuelan Amazon in 1814? In fact none of these is the real *P. nitida*!

According to Kunth, the true *P. nitida* has a large multiverse corona (multiple rowed) in which the outer and second rows are equal in length. The corona is bluish purple in the first half, slightly banded with red near the base, and entirely white from the second half to apex. After the two large outer coronal filaments, (radii), *P. nitida* has several rows of minutely erect inner



coronal filaments, (pali), finished by a row strongly inclined towards the androgynophore. Comparison with this description and habitat reveals the true *P. nitida* at right!

Studying these complexes reveal many 'unknown' species and help us better understand the connection between species within the same taxonomical classification or section. At the same time, solving these complexes results in many new species. The PPI's *P. favardensis*, for instance, became clear during a revision project to series *Laurifoliae*. This is a stunning new species, for years erroneously named, and part of the *P. laurifolia* complex. To read the first description of this spectacular new species, please see my article published elsewhere in this issue. ✿

Passiflora Project International (PPI) is a nonprofit cooperation primarily focused on the study of the 'unknown' species of *Passiflora*. Once I was asked: "Why isn't there a book or website that displays all the recognized *Passiflora*, instead of just the common species such as *P. caerulea* and *P. suberosa*?" This interesting question still remains unanswered.



***Passiflora favardensis*, a new species of *Passiflora* series *Laurifoliae* (*Passifloraceae*) from French Guiana.**

YERO R. KUETHE

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ABSTRACT. A new species of *Passiflora* (*Passifloraceae*) is described from French Guiana. The new species belongs to subgenus *Passiflora* series *Laurifoliae*, and is closely related to *Passiflora chaparensis* and *Passiflora gabrielliana*. *Passiflora favardensis* is easily distinguished from the Bolivian *Passiflora chaparensis* by its type location, country of origin and altitude. It separates itself from the closely related *Passiflora gabrielliana*, which is also known from the same area, by its much smaller leaves, which, like *Passiflora laurifolia*, are rounded at the apex. All the other characteristics, history and habitat of *Passiflora favardensis* are being discussed. A Key to the French Guinean species of *Passiflora* series *Laurifoliae* is also included.

With 584 recognized species, (PPI 2011) *Passiflora* L. is the largest genus and namesake of the family *Passifloraceae*. Although the species of *Passiflora* are usually well-documented and collected, many new species occur from the already existing specimens or plants. Due to the lack of professional and detailed information available about the species individually, many new species became part of already existing species-complexes. Some of these species-complexes, usually connected to widely distributed species such as *Passiflora coccinea* Aubl. and *Passiflora foetida* L., maintain 2 to 9 separated species of *Passiflora* involved.

Passiflora favardensis was also part of one of these complexes, and became separated from *Passiflora laurifolia* L. during a revision of series *Laurifoliae* Killip ex Cervi, in which this species belong.

Series *Laurifoliae* (literally translated as 'Laurel foliage') maintain 26 recognized species of wooden liana's, distributed over 17 countries of the Central- and Latin American continent. (From Bolivia to Mexico, included Cuba and Jamaica) Usually, the species of the series *Laurifoliae* (except *Passiflora laurifolia* L. and *Passiflora ambigua* Hemsl.) do strongly correspond with their specific pollinator or predator of the region of origin. The species became strictly related to certain small areas within the country, as the result.

Extreme specialization between plants and their pollinators is expected to be very sensitive to habitat fragmentation, since the loss of one interactant will inevitably affect the other. Wider distribution or self-pollination (ambiguous) may be the key for a species survival. Due to the increasing illegal logging causing forest destruction and ecological imbalance, the future existence of these 'settled' *Passiflora* is doubtful. These 'settled' species, as well as *Passiflora favardensis*, need to be protected or cultivated, to prevent species extinction.

Passiflora favardensis Kuethe, sp. nov. TYPE: French Guiana. North East: Montagne Favard: Along the road to Kaw, 10 kilometers North of Montagnes de Kaw, *Moerman s.n. 2003* (holotype LU herbarium, The Netherlands) figures 1 to 8

Plant: wooden liana, glabrous throughout. Stem: terete, green when young, brown when older. Stipules: 2 mm long, linear, green and quite unnoticeable, entire. Petioles: green, 2.5 cm long, with one pair of ovate, green glands, ca. 1.5 mm, located 17.5 mm from the base of the petiole. Leaves: deep green, ovate oblong, 13-15 x 8-9 cm, obtuse at the base, rounded at the apex, entirely pinnate-veined, entirely thick coriaceous, a little shiny at the upper surface.



Fig. 1. *Passiflora favardensis* in flower at the Botanical Gardens of Utrecht, 2006. (Photo by Eric Gouda)



Fig. 2 and 3. *Passiflora favardensis* in French Guiana. (Photo by Christian Houel)



Fig. 3. Side view of flower. (Photo by Christian Houel)



Fig. 4. *Passiflora favardensis* in French Guiana. (Photo by Christian Houel)



Fig. 5. Longitudinal flowercut (Photo by Christian Houel)

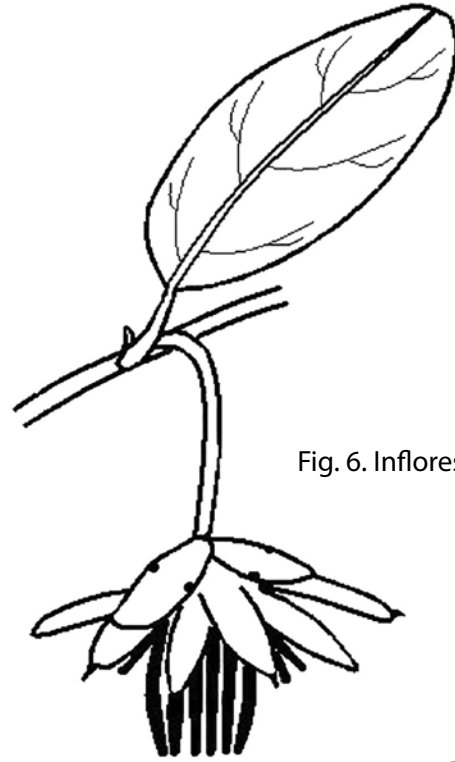


Fig. 6. Inflorescence

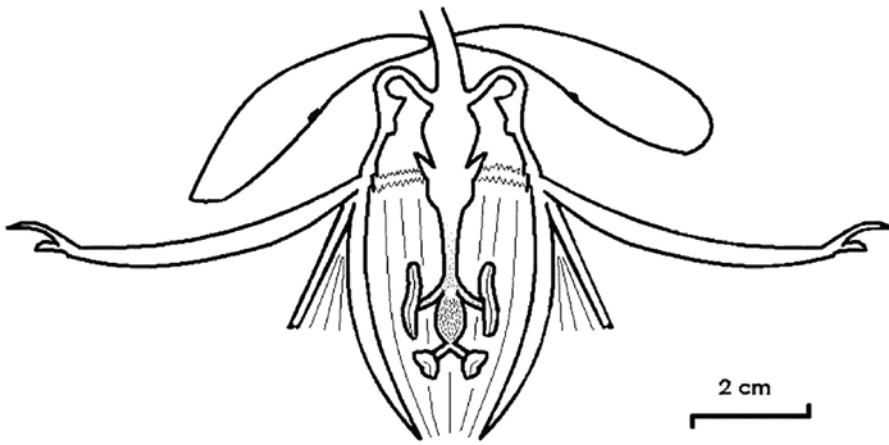


Fig. 7. Flower, longitudinal section



Fig. 8. Young branch with leaf

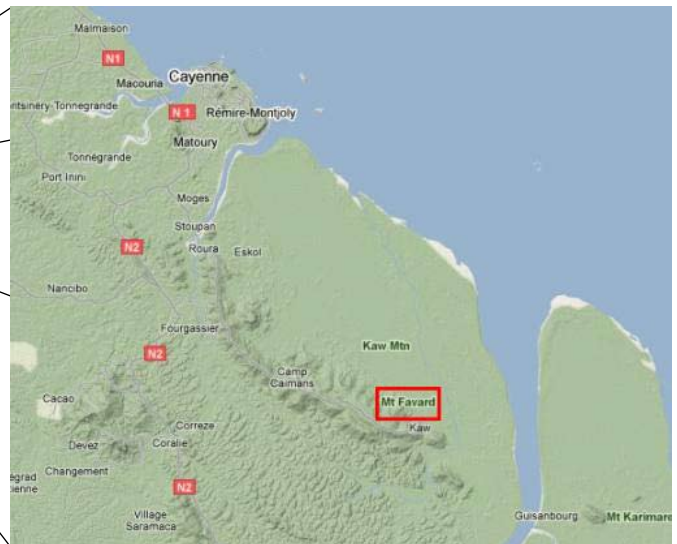


Fig. 9 & 10. Type location in French Guiana, Montagne Favard, east of Cayenne capital

Leaves margin: green, margin entire smooth, glabrous; Laminar nectaries: absent. Tendrils: green to greenish brown, well-developed, glabrous; Flowers: relatively large, ca. 14 cm diameter, reddish brown, pendent, solitary on the younger wood. Flower buds: reddish pink to whitish pink. 4-5 x 3-3,5 cm. Pedicels: terete, brownish red, 3-4 cm long; Bracts: ovate, free from the hypanthium tube, inserted 3 mm below the flower, 3-3,5 x 2-2,5 cm, one green-brownish gland at each margin, bracts color: reddish pink. Hypanthium: campanulate, ca. 2 cm wide at the base, to 3 cm white at the apex, color olive green, contracted; Calyx(sepals): lanceolate, 5-5,5 x 2-2,5 cm, acute, color equal, whitish pink at the outside, reddish brown at the inside; Petals: narrow-ovate, 5-6 x 1,5-2 cm, color equal whitish red at the outside, reddish brown to red at the inside. Awns: very small and unnoticeable, white to whitish pink, ca. 0,5 cm long. Corona: filaments of two visible series, and two minutely filiform series inside; filaments of outer series: stout, linear, 3 cm long, color: equally purple and white banded, purple turns slightly reddish near the inside; filaments of the second series: stout, ligulate, ca. 6 cm, equally banded with purple and white in the first half, and entirely purple in the second half; the two inner series are very small, minutely and filiform, white to whitish yellow; Trochlea: absent. Androgynophore: ca. 4 cm long, white, mottled with red tiny dots, base equally white, a little globose, the more to the top of the androgynophore, the more red dots visible; Ovary: ovoid to ellipsoidal, tomentose, whitish yellow, ca. 6 x 4 mm, partially surrounded by the united base of anthers; Anthers: whitish; Styles: erect, whitish, pubescent at the base; Stigmas: white greenish, globose. *Mature fruits*: Not seen.

Etymology: The specific epithet '*favardensis*' is chosen to acknowledge the type location; Montagne Favard (French Guiana), from where the first specimens was collected.

Distribution and habitat: *Passiflora favardensis* is only known from a small region between Montagnes de Kaw and Montagne Favard. This small hilly 'mountain' range in the North-East of French Guiana is covered by tropical rainforest with the Atlantic influence of the nearby ocean. The species was found growing along the road-

side several kilometers away from Kaw, on reddish soil mixed with clay-alike substance. These lateritic ground-mixtures are the results of the presence of Iron hydroxides, and can be found in areas which offer a frequently rainfall. The species is a well-developed climbing plant, and can be found growing over treetops, roadside-bushes and shrubs for catching sunlight.

Because a mixture of iron hydroxides and clay is essential for growing *Passiflora favardensis*, therefore, it is not an easy species for cultivation. Only a select few botanical gardens can offer these environments, to successfully grow this warmth loving species.

Phenology: However this species was not found with flowers, *Passiflora favardensis* has successfully produced a flower at the Botanical Gardens of the Utrecht University during April 2006. However, cultivated environments for producing flowers, differs from the natural environments which are seasonal affected. Usually, compared with the other members of the series *Laurifoliae*, the flowers appears at the beginning of the rainy season. According to the rainy season in French Guiana, which takes place from November-December till March-July, approximately the flowers appears in December till the early January. Fruits shall take an estimated period of one and a half month to ripen, and will be mature around February to March.

After the first specimens were collected by Piet Moerman in 2003, the species shown, as said, many similarities with its closely related *Passiflora laurifolia* L. and *Passiflora rufostipulata* Feuillet. Both known from the same region in French Guiana. The species was collected as a cutting, and successfully cultivated at the Botanical Gardens of the Utrecht University. (ID no.: 2003GR01683) It was cultivated under the erroneous name of *Passiflora rufostipulata*, which absolutely differs in its reddish stipules, acuminate leaves, and much smaller bracts. From a herbarium specimens only, the species shows many similarities with *Passiflora laurifolia*, which, as occur in just a couple of species within the series *Laurifoliae*, has leaves that are rounded at the apex. Since the leaves are so similar to *Passiflora laurifolia*, the species was considered to be a variety of *Passiflora laurifolia*, and became part of the *Passiflora laurifolia* complex.

Three years after its discovery, it produces a

KEY TO THE FRENCH GUIANA *Passiflora* SERIES *Laurifoliae*

1- Leaves ovate-oblong, acuminate at the apex.

1.1- Outermost rank of coronal filaments equaling or exceeding the second rank.

1.1.1- Bracts entire, 1 cm or more wide, green; leaves not more than 5 cm wide.

----- ***P. acuminata*** DC

1.1.2- Flowers solitary, very large 13-14 cm diameter. Seeds black and strongly crenate.

----- ***P. crenata*** Feuillet & Cremers

1.1.3- Flowers usually pendent, white petals and sepals. Corona wavy, especially at the apex, blue to purple, banded with white.

----- ***P. nitida*** Kunth

1.2- Outermost rank of coronal filaments shorter than the second rank.

1.2.2- Flowers slightly purple to green. Corona wavy at the apex.

----- ***P. rufostipulata*** Feuillet

1.2.3- Flowers equally red to reddish

1.2.3.1- Leaves typically 'V' shaped. Unable to flatten it, without getting cracks.

----- ***P. gabrielliana*** Vanderplank

1.2.3.2- Bracts cherry red. Corona very wavy, especially at the apex.

----- ***P. cerasina*** Annonay & Feuillet

2- Leaves ovate-oblong, rounded at the apex.

2.1- Leaves less than three (rarely more than two) times as long as broad.

2.1.1- Flowers large, ca. 14 cm diam. Reddish brown to red.

----- ***P. favardensis*** Kuethe

2.1.2- Flowers small, ca. 7-8 cm diam. Petals and sepals pinkish to green.

----- ***P. laurifolia*** L.

flower at the Botanical Gardens of Utrecht, what helped us to separate the species from *Passiflora laurifolia* and *Passiflora rufostipulata*. Trying to obtain its real identification, comparison with the other 26 recognized species within the series, came without any results.

During the PPI revision project to the series *Laurifoliae* in January 2011, this species was mentioned again. But this time, considered to be a new species. For the completion of our work, we can not afford a documentation filled with many unrecognized species. Until now, this *Passiflora* was erroneously identified, and considered to be new. From now on, this species is known as *Passiflora favardensis*, the 27th recognized species within series *Laurifoliae*.

ACKNOWLEDGEMENTS. I want to thank Eric Gouda, curator of the Utrecht University Botanical Gardens, and Christian Houel from France, for providing me their beautiful pictures of the flower of *Passiflora favardensis*, and all the information about the species appearance. I want to mention as well the name of my friend Piet Moerman, collector of the species who provided all the information about its natural habitat. I kindly want to thank John MacDougal, Christian Feuillet, Miguel Molinari and John Ocampo for the close review of the manuscript.

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Passion flower hybridization

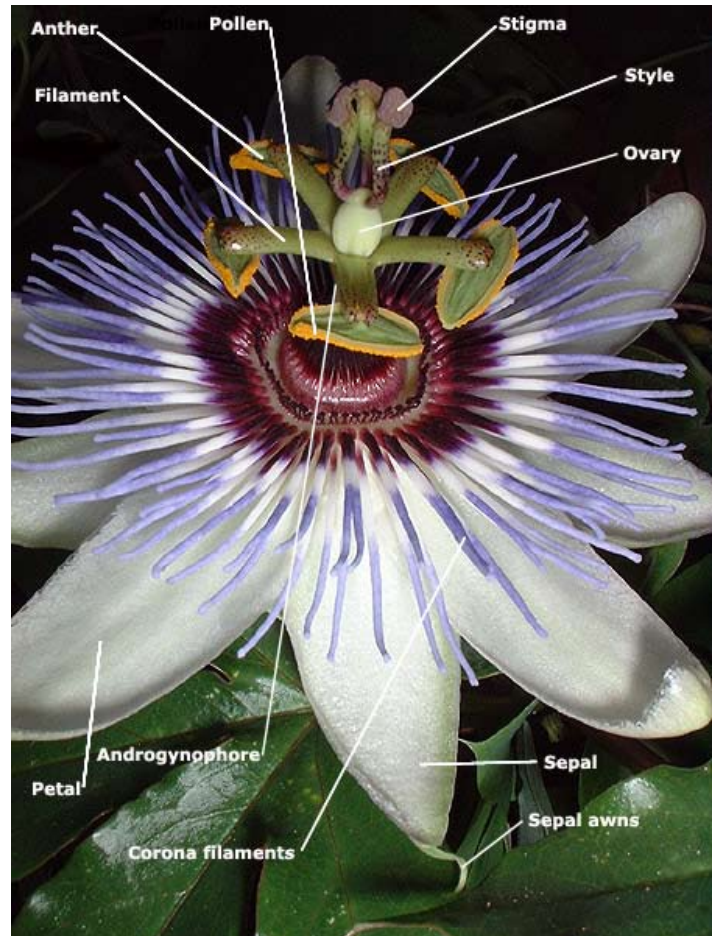
By Jean-Jacques Segalen

Every tropical plant enthusiast nowadays knows about passion flowers. Almost all of these wonderful climbers are native to the New World. They have been grown for decades both in Europe and the USA, though primarily the hardy ones such as *P. caerulea* and *P. incarnata*. The 570+ species recorded today are found from Mexican deserts to the Andean high mountains and the Amazonian lowlands, plus the odd ones in Australia and South-Eastern Asia. This is a pretty vast subject and I will restrict this article to passion flower hybridization. Hybridization is a rather easy thing, which can be performed by any gardener with some patience and a few different species. Obviously, the more species you have the more varied hybrids you can create. There are many good reasons for engaging in hybridization. You may try to create a colourful and hardy plant, a good tasting fruit, an early season and perfumed flower, etc.

Let us discuss a little morphology now. The reproductive apparatus of passion flowers is called an androgynophore, bearing both the male parts, (five anthers with pollen) and the female parts, (three stigmas leading to the ovary). The job will consist of taking pollen from plant A, (the father), and putting it onto the stigmas of plant B, (the mother). This can be done using a small brush, or by tearing off the anthers. Of course it will be easier if you grow species which flower at the same time of the year; otherwise you will have to harvest the pollen, dry it, and store it in the refrigerator until needed.

An important thing to consider when hybridizing is to remove the anthers from flower B as well, so that it will not self-fertilize. This has to be done as soon as the flower opens and should be followed by tying a muslin bag or something similar around the flower to avoid unwanted pollen carried by bees, hummingbirds, and other pollinators. Remove the bag to deposit the pollen and then replace it again until the flower closes. Be sure that the pollinated flower is clearly identified with some kind of marking, saying what pollen was used. Now, you have time to wander around the garden and enjoy your plants.

After a few days the flower may fall off which means it simply did not work! But it may also stay on and wilt while the ovary starts growing, an obvious sign of victory which is sometimes perceptible only 48



Know your flower morphology.

hours after pollination. You then have more time to enjoy your garden, as depending on species, it will take from less than one month to over ten months before the fruit is fully ripe. Unfortunately, it may very well abort before ripening, rot, or get eaten by predators. If you are lucky the fruit will ripen, and you can then open it. Sometimes you will get an empty fruit, and sometimes you get non-viable seeds. For the sake of this article, let us stay positive, and suppose that you got nice seeds and you sow them in your special secret sowing mix. They may just stay there and not germinate, or germinate and be so weak they don't make it. However, they may also grow into very healthy plants which will take over your greenhouse or back garden. Still, this is not the end... some hybrids grow like mad plants, produce masses of nice healthy foliage, hundreds of flower buds all of which abort before opening. This happened to me when crossing *P. coccinea* with *P. edulis* f. *flavicarpa* and *P. alata*, which was both rather deceiving and disappointing. It may be best

to start with hybrids that have been previously done. This way you already know it is a possible cross, and though you may get a result very similar to registered hybrids, you may also produce something new and exciting. You should also consider the fact that hybridization will not generally be successful if you use species belonging to different sub-genera, such as trying to cross a *Decaloba* with a *Tacsonia*.

If you succeed in raising a nice new plant, you have now the right to name it, provided the name is not longer than 30 letters and has not been used before. Part of the registration process is naming the parents, with the maternal plant always mentioned

first. This is an international botanical rule and has nothing to do with gallantry. Genus (*Passiflora*) and species (*caerulea*) are always written in italics, with the genus name capitalized and the species name in lower case. Hybrid names are not written in italic, are always capitalized, and are between single quotes. The only exception to this rule is very old hybrids which were named before the current rules of taxonomic nomenclature were enacted. These are written as a species, but with an "x" prior to the name as shown in *P. x belotii* below.

Even if you don't manage to get there, you sure will have gained a lot of patience in the process...

Let us see now a few more or less known hybrids:



P. 'Purple Haze' (*P. caerulea* x *P. amethystina*) Created by Cor Laurens, curator of the Dutch National *Passiflora* Collection, in 1993. The deep green leaves have three lobes and the nicely perfumed flowers are a delicate pale purple with a showy corona banded deep purple/white/violet. The hardiness of its parentage provides it with good cold resistance.



***P. x belotii* (*P. alata* x *P. caerulea*)**

Created in 1824 by the William Masters Nursery (Canterbury), this plant is now widely grown in Europe as well as in the USA and Australia. It has light green trilobed leaves and big scented flowers with thick petals. The flowers are light pink with a corona made of five rows, banded white/deep purple/pink. It is also known and sold under other names such as *P.* 'Empress Eugénie', *P.* 'Impératrice Eugénie', *P.* 'Kaiserin Eugénia'. This is a recommended cross for the beginner to attempt, as both species are quite easy to obtain from nurseries or seed dealers and not too fussy to grow, provided you can supply enough heat to *P. alata*.

P.* 'Adularia' (*P. sanguinolenta

x *P. citrina*) Created by John Vanderplank, curator of the UK National Collection of *Passiflora*, in 1994. This was the first officially registered hybrid between two species in the *Decaloba* subgenus *Xerogona* section. The unusual shape of the leaves, (deeply bilobed), and of the flowers, (tubular with a reduced corona), are typical of this subgenus. It is a very free flowering plant, blooming all year round in subtropical climate. It may be grown as a climber, ground cover or in suspended baskets. It will take temperatures down to 2°C.



P. 'Manapany' (*P.* 'Byron Beauty' 4n x *P.* 'Temptation' 4n) = 4n. Here is a team result. Dr. Roland Fischer (Germany) made the cross using two tetraploid parents (twice the normal number of chromosomes) and he sent the resulting seed to me for selecting. What came out is a nice strong plant with large flowers 10 to 12 cm in diameter with a deep purple and white corona covering the petals. Manapany is the name of the village on Reunion Island where I live. The plant was created in 2000.



P. 'Cannelle' (*P.* *miniata* x *P.* *incarnata*) Similar to plants obtained by the same cross as *P.* 'Lady Margaret' or *P.* 'Red Inca'. This one was created by the author of this article in 1996 and named after my elder daughter. The beautiful bright red of *P.* *miniata* has given birth to a charming deep pink flower with corona filaments banded white and purple. The hardiness of *P.* *incarnata* allows this hybrid to take temperatures down to 7°C and to survive to 4°C for short periods.

Now, try your chances and good luck! ✨

Jean-Jacques Segalen is a professional horticulturist specializing in seed production, living on tropical Reunion Island with a keen interest in vines and passion flowers.

www.barbadine.com

2010 Passiflora Society International meeting in Cormeray, France

by Eric Wortman and Crystal Stone

This area (above) was a pretty cool area to hang out in.

We arrived a few days prior to the meeting in Blois, situated on the banks of the lower River Loire between Orléans and Tours, a short distance from Christian Houel's "Le Jardin de la Plante d'Or". The hotel that Christian selected for us was comfortable and inexpensive, with a very helpful and friendly, (though no more English speaking than I am French speaking), staff. The hostess on duty the first few days was especially nice, and worked hard to communicate with us. On Tuesday, Christian happened to be in the lobby of the hotel when I went down for breakfast, and he asked if we would like a private tour of his gardens. Of course, the answer was a resounding "Yes!"

The two of us were treated to a personal tour of all facets of the garden, and enjoyed it thoroughly. He has hundreds of species growing beyond *Passiflora*, with many that we

were surprised he could grow successfully in his climate. Christian obviously has quite the green thumb. He very humbly tried to give all credit for the gardens to his excellent staff. Christian's *Passiflora* collection is quite astounding, and we were able to see many that we have desired to view for years.



Passiflora kermesina x P. eichleriana

On Friday, the first official day of the meeting, we all met at the gardens for a tour. It was great to see many old friends again, and meet a lot of new ones.

There were many flowers open this day that were not when we were here 3 days prior. Needless to say, hundreds of pictures were taken. After the tour, Christian led us to the *Passiflora* he had generously set out. There were hundreds of starts in 4" planters for anyone to take.

Christian fed us well throughout the visit for a reasonable fee. On Friday we had Merguez



Group photo of meeting attendees.



P. species Tesseropolis



Christian Houel with *Aristolochia*



P. tucumanensis Tetraploid



P. 'Anastasia'



P. cuneata 'Miguel Molinari'



P. edmundoi



P. 'Princesse Hollande'



P. gracilis



P. 'Oriental Sunset'



P. 'Rook Li'

sausages for lunch and wild boar for dinner. At all times there were side dishes, regional cheeses, and French wine with beautiful labels depicting *Passiflora*. Having much of the food and wine regionally specific to the local area was a nice touch. Christian also treated us to some incredible homemade *Passiflora* wine.

After lunch on Friday, a large group of us went to Chateau Chambord, a huge castle nearby. Longingly, we looked at the tremendous amount of green grassy landscape, wishing we had the opportunity to plant our *Passiflora* with so much open space. It was great to be able to share the experience with our companions. Afterward, we went back to the garden for dinner and much mingling.

Saturday started with the “official” meeting. At this time, I would like to offer a very special thanks to Jim Nevers of Florida for his wonderful translations throughout the weekend. He speaks fluent French and English, and many of us would have been lost without him. Jim didn't sign up for this job, and though he was thrust into the position, he provided the assistance quite graciously.

Minutes of the meeting have been omitted from this article. There was some heated discussion, and many complicated issues came up. For these reason, I have placed this part of the article in a few prominent online locations to give ample ability for anyone to comment, answer or rebuke questions, and provide clarity. I hope anyone who wishes to will feel free to add to the discussion. The meeting generated many positive ideas for the future, and overall I believe the majority of people, American and European, felt that the future looks bright!

Later in the day, we had a few presentations. Christian Feuillet gave a very nice presentation on *Passiflora* of the Guiana Shield. Geo Coppens gave a presentation on DNA testing and observation of species from different areas and their comparative traits. Jim Nevers showed us pictures of his hybrids, and Christian Houel showed us more pictures of outstanding *Passiflora*.

After another great dinner, we all gathered out front to watch a firework show that was being held right across the street. It was fantastic. I have seen many fireworks displays over the years, and this was one of the grandest. Sunday, many people went to a nearby Orchid house, but Crystal and I chose to spend our last day in Paris, so I have no comment on this aspect of the gathering.

I cannot say overmuch how friendly, gracious, and generous Christian Houel was. We felt very welcome, and he tried to spend a bit of personal time with all of his guests. The entire trip was a pleasure. ✿

Eric Wortman and Crystal Stone have been growing *Passiflora* for over 10 years in Northern California. Their focus is currently on hybridization and the advancement of the *Passiflora* community.

Website - www.bloomingpassion.com

Passiflora Society International -
www.passiflora.org

More pictures of the meeting -
<http://gardenbreizh.org/photos/Roc/album-27088.html>

*Passiflora tripartita var mollissima*

Benefits of the passion fruit

By Yvan Vilain

Several epidemiological studies have shown that a high consumption of fruit and vegetables can decrease the risk of cardiovascular disease, some cancers, and various chronic diseases. The presence of antioxidants in the fruit and vegetables could play a part in this protection.

Few clinical researches have studied the effects of the specific consumption of passion fruit. However, the use of certain supplements extracted from the peel or the juice from the fruit gave interesting results. Here are the most promising applications.

✿ Asthma

A small study (43 people) showed that the regular consumption of a supplement made up of extract of passion fruit peel decreased the symptoms of asthma (reduction in the prevalence of sputum, cough and breathlessness). Studies will have to be carried out on a more significant number of subjects to confirm the effectiveness of this treatment.

✿ Hypertension

Research revealed that a supplement from extract of passion fruit peel lowered both systolic and diastolic blood pressure without any side effects. The supplement was composed of a mixture of flavonoids, phenolic acids and anthocyanins, which are all active compounds of the passion fruit.

✿ Arthritic Degenerative Diseases

Another type of supplement extracted from passion fruit peel was found to improve physical function and decrease the pain and the stiffness among patients with osteoarthritis of the knee. The reported beneficial effects were thought to be due to the antioxidant properties and anti-inflammatory chemicals of the passion fruit peel. More studies with regard to the effectiveness and the safety of such a supplement will be necessary before it can be recommended..

✿ Cancer

Researchers observed in vitro that a mixture of antioxidants coming from passion fruit juice could decrease the growth of cancer cells and increase the activity of an enzyme supporting the destruction of these cells.

What does the passion fruit contain?

✿ Antioxidants

The passion fruit contains several types of antioxidants, the compounds which make it possible to neutralize the free radicals of the body, thus reducing the risk of cardiovascular disease, some cancers and various chronic diseases.

The principal antioxidants of the passion fruit are the anthocyanins, particularly cyanidin-3-glucoside. These compounds, which are

pigments, give a red, purple or blue color to food. Animal studies suggest that they may have beneficial properties regarding the prevention of cancer, e.g. reduction in the formation of tumours and in the growth of the cancer cells.

The skin of the passion fruit and the layer of pith inside contain a high amount of lycopene, an antioxidant of the family of carotenoids. Scraping the flesh well with a spoon will obtain a useful quantity of lycopene. Unlike other carotenoids, lycopene cannot be transformed into vitamin A in the body. Its antioxidant action however is thought to have beneficial effects on health, in particular on the incidence of cardiovascular diseases and cancer of the prostate. Lycopene is absorbed better when one consumes food with a source of fat, such as nuts or cheese. Passion fruit as a source of lycopene have hardly been studied, with the tomato and products containing tomato being the main sources of lycopene in the diet.



Passiflora ligularis

* Fibre

Passion fruit rind and seed both contain insoluble fibre. A fibre rich diet will fill you up more, reduce constipation and may reduce the risk of cancer of the colon. Animal research has also shown that passion fruit seed can improve several blood parameters (blood cholesterol, triglycerides) and some intestinal functions despite a diet rich in cholesterol. No research has yet been done on humans though.



Passiflora edulis edulis

Passiflora edulis f. flavicarpa

Food value of the passion fruit (*Passiflora edulis flavicarpa*).

Food value per 100 grams of passion fruit:

Total of lipids	1g
Sodium	28mg
Total carbohydrates	23g
Fibre	10g
Sugars	11g
Proteins	2g
Vitamin A	1272 IU
Equivalent Retinol Activity	64 mcg
Beta-carotene	743 mcg
Beta cryptoxanthine	41 mcg
Vitamin C	30 mg
Vitamin E	0.02 mg
Vitamin K	0.7 mcg
Riboflavin	0.13 mg
Niacine	1.5 mg
B6 vitamin	0.1 mg
Folic acid	14 mcg
Folic acid of food	14.5,6 mcg
Equivalents of folate food	14 mcg
Calcium	12 mg
Iron	1.6 mg
Magnesium	29 mg
Phosphorus	68 mg
Potassium	348 mg
Sodium	28 mg
Zinc	0.1 mg
Copper	0.086 mg
Selenium	0.6 mcg
Fat content total	0.7 mg
Saturated fats	0.059 mg
Monounsaturated fats	0.086 mg
Polyunsaturated fats	0.411 mg



Precautions

Allergy to passion fruit and latex

Latex allergy can be associated with allergies to certain food, like passion fruit, avocado, banana, chestnut, kiwi, apricot and pawpaw. The reactions are varied, from urticaria to anaphylactic shock, so allergy sufferers including those suffering from hay fever should be cautious.

Choice and Conservation

The fruit should be fragrant and feel heavy in the hand. Its skin should be wrinkled and yield slightly under pressure. Fruits with hard smooth shiny skin which look very fresh are in fact immature, not very tasty and rather acid. According to the variety, the fruit will be purple, crimson or yellow.

The juice is generally added to juice from other fruits to give a unique tropical taste. Read the label well to make sure that it is 100% natural juice and does not include sugar and various artificial ingredients.

To preserve: Refrigerate. If the skin of the fruit is not very wrinkled, leave it to mature at room temperature, then it can be kept in the refrigerator for up to one week.

Freeze. Place the pulp in a bag or freeze the whole fruit. You can also make a coulis or a juice and freeze it as ice lollies.

There are about 60 *Passiflora* that bear edible fruit include: *P. alata*, *P. edulis*, *P. edulis flavicarpa*, *P. foetida*, *P. laurifolia*, *P. ligularis*, *P. maliformis*, *P. quadrangularis*, *P. tarmaniana* and *P. tripartita var mollissima*.

There are many varieties of *P. edulis* and crosses with *P. edulis flavicarpa*, including inter alia 'Common Purple', cultivated in Hawaii, 'Black Knight', 'Edgehill' a cultivar with crimson fruit, similar to 'Black Knight' but even more vigorous and planted widely in California, 'Frederick' from Lincoln Acres, California by Patrick Worley. (Kahuna x Brazilian Golden), 'Kahuna', 'Perfecta' with larger fruit and 'Brazilian Golden' (yellow fruit). ✿

Yvan Vilain, Passion fruit farm and *Passiflora* collection in Thailand. Horticultural technician, specializing since 1984 in tropical plants, particularly *Passiflora*.

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Passion fruit lemonade

By Alejandra Ramos

This refreshing Passion Fruit Lemonade was a hit at a party I held recently. Freshly squeezed lemon juice is combined with tart and tropical passion fruit pulp (purchased frozen from the freezer section of my local grocery store) for a cool beverage that tastes like vacation in a glass.

Mix up a big batch and serve in a punch bowl or pitchers at your next gathering. The recipe is non-alcoholic, but if you'd like to kick it up a bit, just keep a bottle of vodka nearby and let your guests add a shot of it to their glass if they'd prefer something a little stronger.

If you can't find frozen passion fruit pulp at the store and don't want to buy it online, you can also halve the simple syrup and add a pint of passion fruit sorbet instead (Ciao Bella makes a good one); it'll melt into the drink and serve to sweeten and impart the passion fruit flavor.

Passion Fruit Lemonade

Serves 10-12, can be halved.

The sweetness of this drink depends a lot on the sweetness of your lemons. Like with all recipes involving fresh fruit, note that these amounts are a guideline. Taste the final product and adjust with more sugar or water (or lemon juice) according to your preferences.

Ingredients

- 2 cups sugar
- 2 cups water (for simple syrup)
- 2.5 cups freshly squeezed lemon juice
- 2 cups frozen pure (no sugar added) passion fruit pulp [usually available in the freezer section of your supermarket or Latin grocer; look near the frozen Goya brand products. It may be labeled "maracuya" or "parcha" (the Spanish names for the fruit)]
- 4 cups water (for diluting)
- 5 cups ice cubes

Combine the two cups of sugar and first two cups of water in a small saucepan over high heat until the water boils. Stir until all the sugar dissolves and remove from heat. Let cool to room temperature.

In a large punchbowl or pitcher, combine the simple syrup, 2.5 cups lemon juice, 2 cups frozen passion fruit pulp (still frozen and broken up into chunks), 4 cups water, and 4 cups ice cubes. Stir well to combine and leave in the refrigerator to chill for at least 1 hour (up to 4). Note that it will be very strong at first; the ice will melt so that come time to serve it, the lemonade will be perfectly chilled and balanced.

Serve immediately. (I've stored leftovers in the fridge for up to 2 days, just stirring a bit before serving.) ✿

Alejandra Ramos is a full-time food writer, recipe developer, and culinary instructor. See her blog at www.alwaysorderdessert.com, or email her at alejandra@alwaysorderdessert.com.

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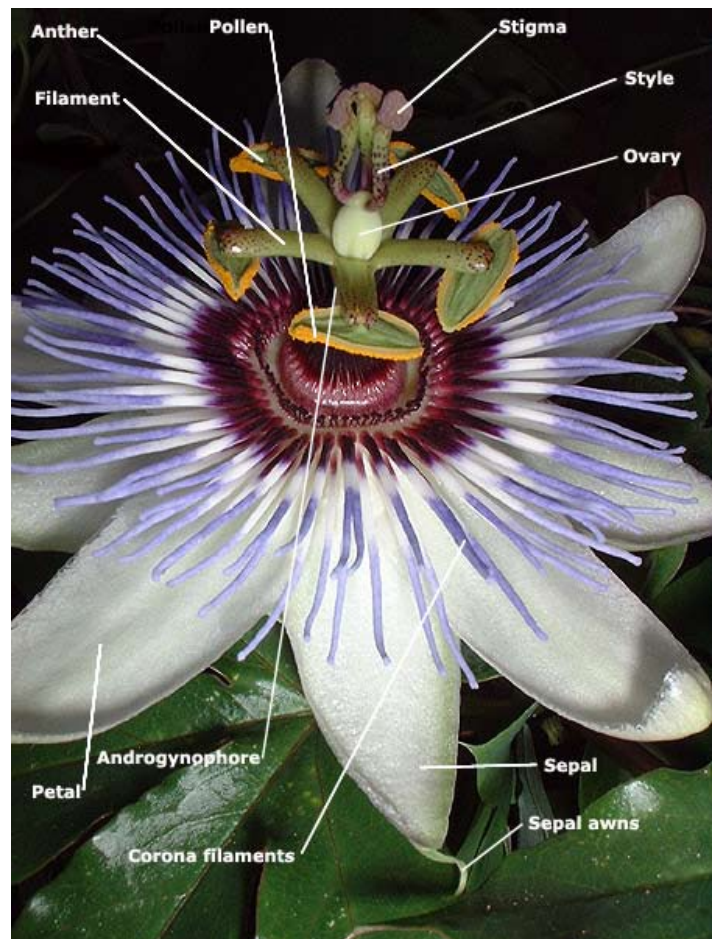
De l'hybridation des passiflores

Par Jean-Jacques Segalen

La majeure partie des amateurs de plantes tropicales connaît les fleurs de la passion de nos jours. Presque toutes ces extraordinaires grimpances sont originaires du Nouveau Monde. Elles sont cultivées depuis des décennies aussi bien en Europe qu'aux USA même s'il s'agit surtout des espèces rustiques comme *P.caerulea* et *P. incarnata*. Les quelques 570 espèces répertoriées à l'heure actuelle poussent depuis les déserts Mexicains jusqu'aux hautes montagnes Andines et aux basses terres d'Amazonie sans compter les exceptions d'Australie et d'Asie du Sud-Est. C'est un très vaste sujet, je me contenterai donc ici de m'en tenir aux hybrides. L'hybridation est quelque-chose de relativement simple à la portée de tout jardinier doté d'un minimum de patience et de plusieurs espèces différentes en culture. Bien entendu, plus vous aurez d'espèces à disposition plus vous pourrez obtenir une large palette d'hybrides. Il y a plusieurs excellentes raisons pour se lancer dans ce travail ; vous pouvez tenter de créer une plante à la fois colorée et rustique, des fruits agréables au goût, une fleur parfumée et précoce etc. . .

Commençons d'abord par un peu de morphologie. L'appareil reproducteur des passiflores s'appelle un androgynophore qui regroupe donc les parties mâles (les cinq anthères avec le pollen) et les parties femelles (les trois stigmates qui conduisent aux ovaires). Le travail consistera à récupérer le pollen sur la plante A (le père) et à le déposer sur les stigmates de la plante B (la mère). On peut pour cela utiliser un petit pinceau, les doigts ou bien arracher les anthères. Ce sera bien sûr plus simple si vous cultivez des espèces qui fleurissent à la même époque de l'année sinon il vous faudra récolter le pollen, le sécher et le stocker au réfrigérateur jusqu'au moment voulu.

Une précaution importante consiste en la castration ou suppression des anthères de la fleur B afin d'éviter une autopolinisation. Cette opération est à réaliser dès l'ouverture de la fleur et devra être suivie de la mise en place d'un sac de toile fine autour de la fleur pour éviter l'apport incontrôlé de pollen transporté par les abeilles, les colibris ou tout autre pollinisateur naturel. Enlevez le sac pour polliniser et remplacez le aussitôt. Il est également essentiel que la fleur pollinisée soit clairement identifiée et qu'une étiquette ou autre moyen indique avec quel pollen elle a été fécondée. Ceci fait vous avez enfin le temps de vous promener dans le jardin et de profiter de vos plantes.



Sachez votre morphologie de fleur.

Après quelques jours la fleur peut tomber ce qui indique tout simplement que cela n'a pas fonctionné ! Mais elle peut également rester en place et faner pendant que l'ovaire commence à grossir, signe évident de victoire qui peut être déjà visible seulement 48 heures après la pollinisation. Vous avez alors du temps pour travailler dans le jardin puisque selon les espèces il faudra entre un à dix mois avant que le fruit ne soit totalement mûr. Et malheureusement il peut également avorter avant ou bien pourrir ou encore être dévoré par un prédateur. Si vous êtes chanceux le fruit va mûrir et vous pourrez alors l'ouvrir. Parfois vous tomberez sur un fruit vide, d'autres fois vous obtiendrez des graines non viables. Mais pour le bien de cet article restons positifs et disons que vous récoltez de jolies graines que vous semez alors dans votre mélange secret. Elles peuvent très bien rester là et ne pas germer ou bien lever mais donner des plantules si faibles qu'elles ne tiennent pas. De la même façon vous pouvez obtenir des plantes très vigoureuses qui vont envahir votre serre ou le fond du jardin. Et ce n'est pourtant pas encore gagné...

certains hybrides croissent de manière insensée en produisant des masses de joli feuillage et des centaines de boutons à fleurs qui avortent tous avant de s'ouvrir. Cela m'est arrivé notamment en croisant *P. coccinea* avec *P. edulis flavicarpa* et *P. alata*, à la fois décevant et sans intérêt. Il vaut mieux commencer vos essais par des hybrides déjà réalisés, de cette façon vous savez qu'il s'agit de croisements possibles et bien que vous risquiez d'obtenir des résultats très proches de ceux déjà existants vous pouvez également arriver à quelque chose de nouveau et intéressant. Gardez aussi à l'esprit que vous avez for peu de chance de succès si vous utilisez des espèces appartenant à des sous-genres différents par exemple si vous voulez croiser une *Decaloba* avec une *Tacsonia*.

Si vous arrivez à produire une jolie nouvelle plante vous avez le droit de lui donner un nom du moment que celui-ci ne fait pas plus de 30 lettres et n'a pas déjà été utilisé. Une étape de la procédure

d'enregistrement consiste à donner le nom des parents avec le parent mère toujours écrit en premier. Il s'agit là des règles internationales de nomenclature et n'a rien à voir avec la galanterie. Le genre (*Passiflora*) et l'espèce (*caerulea*) sont toujours écrits en italique, la première lettre du genre étant toujours en majuscule et celle de l'espèce en minuscule. Les noms d'hybride par contre ne sont jamais en italique et toujours avec une majuscule, entourés par des guillemets simples. La seule exception à cette règle concerne les très anciens hybrides baptisés avant la mise en place de ces règles. On les écrit alors comme pour des espèces mais avec un 'x' avant le nom comme pour *P.x belotii* décrit ci-dessous.

Et même si vous n'arrivez pas jusque-là vous aurez sans nul doute acquis une bonne dose de patience....

Voyons maintenant quelques hybrides plus ou moins connus ;



***P. 'Purple Haze'* (*P. caerulea* x *amethystina*).** Un hybride relativement récent créé par Cor Laurens, conservateur de la collection nationale Hollandaise de passiflores. Les feuilles vert foncé sont trilobées et les fleurs agréablement parfumées sont violet pâle avec une jolie corona rayée violet foncé/blanc/mauve. La rusticité de ses parents devrait lui assurer une bonne résistance au froid.



***P. x belotii* (*P. alata* x *caerulea*).**
 Produite en 1824 par les pépinières William Masters (Canterbury) cette plante est maintenant largement cultivée en Europe ainsi qu'aux USA et en Australie. Elle a des feuilles trilobées vert clair et de grosses fleurs parfumées aux pétales épais. Ces fleurs sont rose pale avec une corona sur cinq rangs rayée blanc/violet foncé/rose. Elle est souvent appelée et vendue sous d'autres noms tels que; *P. x belotii*, *P. 'Impératrice Eugénie'*, *P. 'Kaiserin Eugenia'*. C'est un croisement recommandé pour les débutants, les deux espèces étant assez facile à obtenir en pépinière ou via les vendeurs de graines et pas trop difficiles à cultiver pour peur que l'on puisse fournir assez de chaleur à *P. alata*.

***P. 'Adularia'* (*P. sanguinolenta* x *citrina*).** Une création tout à fait originale de John Vanderplank (conservateur de la collection nationale Britannique de passiflores) qui a la particularité d'être le premier hybride officiellement enregistré dont les parents appartiennent au sous-genre *Decaloba* section *Xerogona*. La forme inhabituelle des feuilles (profondément bilobées) et des fleurs (tubulaires avec coron réduite) sont typiques du sous-genre. C'est une plante très florifère qui s'épanouit toute l'année en zone tropicale. On peut le cultiver en grimpante, en couvre-sol ou en suspension. Il supportera des températures aussi basses que 2°C.



***P.* 'Manapany'** (*P.* '*Byron Beauty*' 4n x *P.* '*Temptation*' 4n) = 4n. Voici une création issue d'un travail d'équipe ; le Docteur Roland Fischer (Allemagne) a effectué le croisement et utilisé la colchicine de façon à obtenir des tétraploïdes (quatre fois le nombre normal de chromosomes) puis m'a envoyé les graines pour sélection. Le résultat est une belle plante, vigoureuse et donnant de grosses fleurs de 10 à 12 cm de diamètre dont la corona recouvre les pétales. Manapany est le nom d'un village de l'île de la Réunion où je vis. Obtention de l'an 2000.



***P.*'Cannelle'** (*P.* *miniata* x *incarnata*). Similaire à des plantes obtenues par ailleurs des mêmes parents (*P.* 'Lady Margaret' ou *P.* 'Red Inca') cet hybride a été obtenu par l'auteur de ces lignes et nommé en l'honneur de ma fille aînée...Le splendide rouge vif de *P. miniata* a donné naissance à une belle fleur rose soutenu avec une corona rayée de blanc et de violet foncé. La rusticité conférée par *P. incarnata* permet à cet hybride de supporter des températures de 7°C voir 4°C pour de courtes durées.

Bon courage, et tenez-nous au courant de vos obtentions! ❁

Jean-Jacques Segalen est un horticulteur spécialisé dans la production de graines et semences tropicales sur l'île de la Réunion, avec un intérêt particulier pour les plantes grimpantes et notamment les passiflores.

www.barbadine.com

Réunion 2010 Internationale de la Société de Passiflores, Cormeray, France

par Éric Wortman et Crystal Stone

This area (above) was a pretty cool area to hang out in.

Nous sommes arrivés quelques jours avant la réunion à Blois, situé sur les rives inférieures de la Loire entre Orléans et Tours, à une courte distance du Jardin de la Plante d'or de Christian Houel. L'hôtel que Christian avait choisi pour nous était confortable et peu coûteux, avec un très utile et amical (bien qu'ils ne parlaient pas plus anglais que moi je ne parle français) personnel. L'hôtesse en service les premiers jours était particulièrement gentille, et a oeuvré durement pour communiquer avec nous.

Mardi, Christian se trouvait dans le hall de l'hôtel lorsque je suis descendu pour le petit déjeuner, et il m'a demandé si nous aimerions une visite privée de ses jardins. Bien entendu, la réponse est un retentissant « Oui ! »

Nous avons eu droit à une visite personnelle de toutes les facettes du jardin, et l'avons apprécié complètement. Il a des centaines d'espèces s'élevant outre les *passiflores*, avec beaucoup que nous avons

été étonnés qu'elles puissent se développer avec succès dans son climat.

Christian a évidemment tout à fait la main verte. Il a très humblement essayé de donner tout le crédit pour les jardins à son excellent personnel. La collection de *passiflores* de Christian est tout à fait stupéfiante, et nous avons pu en voir beaucoup que nous avons désiré admirer durant des années.

Vendredi, le premier jour officiel de la réunion, nous nous sommes tous réunis aux jardins pour une visite.

C'était formidable de voir de nombreux anciens amis, et d'en rencontrer beaucoup de nouveaux. Il y avait beaucoup de fleurs épanouies ce jour-là qui ne l'étaient pas quand nous étions ici les 3 jours précédents. Inutile de préciser, des centaines de photos ont été prises. Après la visite, Christian nous a conduits vers les *Passiflores* qu'il avait généreusement exposées. Il y avait des centaines de jeunes plantes en pot de 10 cm pour que quiconque puisse emporter.



Passiflora kermesina x P. eichleriana



Photo de groupe des participants de réunion.



P. species Tesseropolis



Christian Houel avec Aristolochia



P. tucumanensis Tetraploid



P. 'Anastasia'



P. cuneata 'Miguel Molinari'



P. edmundoi



P. 'Princesse Hollande'



P. gracilis



P. 'Oriental Sunset'



P. 'Rook Li'

Christian nous a nourris tout au long de la visite à un prix raisonnable. Le vendredi, nous avons eu des saucisses-merguez pour le déjeuner et du sanglier au dîner, il y avait plats, fromages régionaux, et les vins français avec de très belles étiquettes représentant les *passiflores*. Avoir une grande partie de nourriture et de vin typiquement régional était une touche charmante. Christian nous a également offert un vin de *passiflore* fait maison incroyable.

Après le déjeuner du vendredi, un grand groupe d'entre nous s'est dirigé au château Chambord, un château gigantesque à proximité. Avec convoitise, nous avons regardé l'immense quantité de paysages verdoyants, désirant nous avons eu l'occasion de planter nos *passiflores* avec autant d'espace. Quelle merveilleuse expérience partagée avec nos camarades ! Ensuite, nous sommes allés au jardin pour le dîner et se mêlant entre nous.

Samedi a commencé par la réunion « officielle ». Actuellement, je voudrais offrir mes remerciements très spéciaux à Jim Nevers de la Floride pour ses merveilleuses traductions tout au long du week-end. Il parle français et anglais couramment, et bon nombre d'entre nous auraient été perdus sans lui. Jim n'avait pas signé de contrat pour ce travail et bien qu'il ait été poussé dans le poste, il a fourni l'aide tout à fait gracieusement.

Le procès-verbal de la rencontre a été oublié de ce reportage. Il y avait une certaine discussion passionnée, et beaucoup de questions compliquées ont été soulevées. Pour ces raisons, j'ai mis cette partie de l'article dans quelques sites en ligne pour donner la capacité suffisante pour toute personne de commenter, à répondre aux questions ou de contredire, et garantir la clarté. J'espère que tous ceux souhaitant se sentir libres d'ajouter à la discussion le feront. La rencontre a généré beaucoup d'idées positives pour l'avenir, et dans l'ensemble je pense que pour la majorité des gens, Américains et Européens ont estimé que l'avenir s'annonce prometteur !

Plus tard dans la journée, nous avons eu quelques présentations.

Christian Feuillet a fait une très agréable présentation sur les *passiflores* du plateau de Guyane. Geo Coppens a donné une présentation sur les tests DNA et l'observation des espèces de différentes régions et de leurs traits comparatifs. Jim Nevers nous a montré des photos de ses hybrides, et Christian Houel nous a montré plus d'images de *passiflores* exceptionnelles.

Après un autre grand dîner, nous sommes tous réunis à l'avant pour regarder un feu d'artifice qui se tenait juste de l'autre côté de la rue. Il était fantastique. J'ai vu beaucoup de feux d'artifice au cours des années, et c'était un des plus grands. Dimanche, beaucoup de gens allaient visiter une serre d'orchidées voisine, mais Crystal et moi avons choisi de passer notre dernier jour à Paris, donc je n'ai pas de commentaire sur cet aspect de la réunion.

Je ne sais pas trop comment dire, Christian Houel était amical, aimable, généreux et nous nous sommes senti les bienvenus, et il a essayé de passer un peu de temps personnel avec tous ses invités. La totalité du voyage a été un plaisir. ✨

Éric Wortman et Crystal élèvent des *passiflores* depuis plus de 10 ans en Californie du Nord.

Leur point central est actuellement sur l'hybridation et l'amélioration de la communauté de *passiflores*.

Site Web: www.bloomingpassion.com

Société Internationale de Passiflores -
www.passiflora.org

Plus de photos de la réunion: -
<http://gardenbreizh.org/photos/Roc/album-27088.html>

Traduction par Yvan Vilain et Duncan McCreddie

*Passiflora tripartita var mollissima*

Les bienfaits des fruits de la passion

Par Yvan Vilain

Plusieurs études épidémiologiques ont démontré qu'une consommation élevée de légumes et de fruits diminuait le risque de maladies cardiovasculaires, de certains cancers et de diverses maladies chroniques. La présence d'antioxydants dans les légumes et les fruits pourrait jouer un rôle dans cette protection.

Peu de recherches cliniques ont étudié les effets de la consommation spécifique des fruits de la passion. Cependant, l'utilisation de certains suppléments extraits de la pelure ou du jus du fruit a donné des résultats intéressants. Voici les applications les plus prometteuses.

✿ Asthme

Une petite étude (43 personnes) a montré que la consommation régulière d'un supplément composé d'extrait de pelure de fruit de la passion diminuait les symptômes de l'asthme (diminution de la prévalence des crachats, de la toux et de l'essoufflement). Des études devront être effectuées sur un nombre plus important de sujets pour confirmer l'efficacité de ce traitement.

✿ Hypertension

Des recherches ont révélé qu'un supplément provenant d'extrait de pelure de fruit de la passion permettait d'améliorer la pression artérielle systolique et diastolique, sans aucun effet indésirable. Le supplément administré était composé d'un mélange de flavonoïdes, d'acides phénoliques et d'anthocyanines, des composés actifs du fruit de la passion.

✿ Maladies articulaires dégénératives

Un autre type de supplément, extrait de la pelure du fruit de la passion, améliorerait la fonction physique et diminuerait la douleur et la raideur chez des patients atteints d'arthrose du genou. Les effets bénéfiques rapportés seraient attribuables aux propriétés antioxydantes et anti-inflammatoires de la pelure du fruit de la passion. Davantage d'études en ce qui concerne l'efficacité et l'innocuité d'un tel supplément seront cependant nécessaires avant de pouvoir émettre des recommandations.

✿ Cancer

Des chercheurs ont observé in vitro qu'un mélange d'antioxydants provenant du jus de fruit de la passion pouvait diminuer la croissance de cellules cancéreuses et augmentait l'activité d'une enzyme favorisant la destruction de ces cellules.

Que contient le fruit de la passion?

✿ Antioxydants

Le fruit de la passion contient plusieurs types d'antioxydants, des composés qui permettent de neutraliser les radicaux libres du corps et de prévenir ainsi l'apparition des maladies cardiovasculaires, de certains cancers et de diverses maladies chroniques.

Les principaux antioxydants du fruit de la passion sont les anthocyanines, plus particulièrement de la cyanidine. Ces composés, qui sont des pigments, donnent une couleur prononcée aux aliments. Ils auraient des propriétés bénéfiques quant à la prévention du cancer (par exemple, la diminution de la formation de tumeurs et la diminution de la croissance des cellules cancéreuses). Ces propriétés n'ont toutefois pas été étudiées directement chez l'humain.

La peau du fruit de la passion et la couche de chair située juste en dessous contiendraient une quantité élevée de lycopène, un antioxydant de la famille des caroténoïdes. Il suffit de bien gratter la chair avec une cuillère en allant jusqu'à la peau pour obtenir une bonne quantité de lycopène. Contrairement à d'autres caroténoïdes, le lycopène n'a pas la capacité de se transformer en vitamine A dans l'organisme. Toutefois, son action antioxydante aurait des effets bénéfiques sur la santé, notamment sur l'incidence de maladies cardiovasculaires et de cancer de la prostate. Le lycopène est mieux absorbé dans l'organisme lorsqu'on consomme l'aliment avec une source de gras, par exemple des noix ou du fromage.

Jusqu'à maintenant, le lycopène provenant spécifiquement du fruit de la passion a été relativement peu étudié.

La tomate et les produits à base de tomate sont les principales sources de lycopène dans l'alimentation.

✿ Fibres

La pelure du fruit de la passion de même que ses graines contiennent des fibres insolubles. Celles-ci aideraient entre autres à prévenir la constipation en augmentant le volume des selles. De façon générale, une alimentation riche en fibres serait associée à un plus faible risque de cancer du côlon et aiderait à combler l'appétit en procurant plus rapidement une sensation de satiété.

Des recherches ont démontré que l'ajout de graines de fruits de la passion à une diète riche en cholestérol permettait d'améliorer plusieurs paramètres sanguins (cholestérol sanguin, triglycérides) et certaines fonctions intestinales chez les animaux. D'autres études sont cependant nécessaires pour savoir si les graines de fruits de la passion ont les mêmes effets chez l'humain.



Valeur nutritive des fruits de la passion

Valeur nutritive par 100 g de fruits de la passion (*Passiflora edulis flavicarpa*)

Total de lipide	1g
Sodium	28mg
Total hydrate de carbone	23g
Fibres alimentaires	10g
Sucres	11g
Protéines	2g
Vitamine A	1272 UI
Équivalent Retional Activité	64 mcg
Bêta-carotène	743 mcg
Beta cryptoxanthine	41 mcg
Vitamine C	30 mg
Vitamine E	0,02 mg
Vitamine K	0,7 mcg
Riboflavine	0,13 mg
Niacine	1,5 mg
Vitamine B6	0,1 mg
Acide folique	14 mcg
L'acide folique des aliments	14 5,6 mcg
Équivalents de folate alimentaire	14 mcg
Calcium	12 mg
Fer	1,6 mg
Magnésium	29 mg
Phosphore	68 mg
De potassium	348 mg
De sodium	28 mg
Zinc	0,1 mg
Cuivre	0,086 mg
Sélénium	0,6 mcg
Total de matières grasses	0,7 mg
Gras saturés	0,059 mg
Graisses monoinsaturées	0,086 mg
Gras polyinsaturés	0,411 mg

Précautions

Allergie au fruit de la passion et au latex.

L'allergie au latex peut être associée à des allergies à certains aliments, comme le fruit de la passion. Les réactions sont diverses, passant de l'urticaire aux réactions anaphylactiques. Étant donné la gravité potentielle des réactions, une attention très particulière doit être portée au moment de la consommation de ces aliments chez les personnes allergiques au latex ou au pollen. On leur recommande de consulter un allergologue afin de déterminer la cause des réactions à certains aliments ainsi que les précautions à prendre. Parmi les aliments potentiellement associés à l'allergie au latex, on compte également l'avocat, la banane, le marron, le kiwi, l'abricot et la papaye.

Choix et Conservation

Le fruit devrait être odorant et lourd en main. Sa peau devrait être plissée et céder légèrement sous la pression. Les fruits à peau dure, lisse et brillante, qui donnent l'impression d'une très grande fraîcheur, sont en fait immatures, peu savoureux et plutôt acides. Selon la variété, le fruit sera pourpre ou jaune.

Le jus se présente généralement en mélange avec celui d'autres fruits. Lisez bien l'étiquette pour vous assurer qu'il s'agit d'un jus naturel à 100 % et non d'une boisson comprenant du sucre et divers ingrédients artificiels.

Conserver

Réfrigérateur. Si la peau du fruit n'est pas très plissée, laissez-le mûrir à la température de la pièce, puis mettez-le au réfrigérateur où il se conservera 1 semaine.

Congélateur. Placez la chair dans un sac à congélation ou congelez le fruit entier. Vous pouvez aussi en faire un coulis ou un jus et le verser dans un bac à glaçons

Il y a une soixantaine d'espèces de passiflores qui produisent des fruits comestibles, comme

P. alata, *P. edulis*, *P. edulis flavicarpa*, *P. foetida*, *P. laurifolia*, *P. ligularis*, *P. maliformis*, *P. quadrangularis*, *P. tarmaniana* et *P. tripartita var mollissima*.

Il y a plusieurs variétés de *P. edulis* et des hybrides avec *P. edulis flavicarpa*, comme „Common Purple“, cultivée en Hawaï, „Black Knight“, „Edgehill“, une variété aux fruits cramois, ressemblante à „Black Knight“, mais plus foisonnante, répandue en toute Californie, „Frederick“ de Lincoln Acres, Californie, créée par Patrick Worley. (Kahuna x Brazilian Golden), „Kahuna“, „Perfecta“ aux fruits plus grandes, et „Brazilian Golden“ (aux fruits jaunes). ✱

Yvan Vilain, Ferme de fruits de la Passion et collection de passiflores en Thaïlande,

Technicien horticole, spécialisé, depuis 1984, dans la culture des plantes tropicales et particulièrement des passiflores.

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Édité par Dr Reto Gamma