

# PASSION

## in the Gardens



The fruit of *Passiflora laurifolia* is known locally as buah susu.



The arrowheaded leaves of *Passiflora biflora*.



The flowers of *Passiflora laurifolia* have a corona striped in purple and white.

Passion-flowers, likewise passion-fruits, are members of the genus *Passiflora*. The passion in either the vernacular or botanical names refers not to any actual or supposed influence of the flowers or the fruits on human emotions, but to the passion or crucifixion of Jesus Christ. Passion-flowers have very complex structures, and early Christian missionaries to South America, where most of the passion-flowers are found, used the shape and numbers of various parts to tell the story of the crucifixion. However, many species of *Passiflora* have extremely beautiful flowers and some have fruits with seeds encased in a tangy pulp, delicious to eat or squeezed to make a drink. People can indeed be passionate about *Passiflora*.

Passion-flowers are mostly climbing plants, using tendrils to grab hold of surrounding vegetation as they grow up. Once a nearby branch or twig is caught, the tendril coils up pulling the stem of the vine in close to the support. The passion-flowers generally have an extra set of appendages inside the petals known as a corona. In many species this consists of numerous fine filaments. The sexual parts are often raised on a stalk well above the petals, leading to the three-dimensional complexity of the flowers. A range of strong colours and pleasant fragrances add to the ornamental potential of the passion-flowers. Other species are grown for their highly esteemed fruits. These are berries with leathery skins. Despite providing luscious fruits, the rest of the plants are often very toxic due to the presence of cyanide-

producing chemicals in the leaves. When the plants are damaged prussic acid (HCN) is released which is highly poisonous to all animals.

Of the 400 or so species of passion-flower only about 20 are native outside the Americas. Southeast Asia only has a handful of indigenous species, none of which occur in Singapore. Many other species of passion-flower have been introduced deliberately or accidentally to the region, mostly to be grown for their attractive flowers or edible fruits. The Botanic Gardens' collection includes several examples. Perhaps the most attractive of which is *Passiflora coccinea* which can be seen growing on the Cluny Park Road fence opposite the School of Horticulture. The vermilion petals contrast spectacularly with the outer black and inner white filaments of the corona to produce a memorable floral display.

*Passiflora biflora* has more modest white flowers, but is made attractive by its unusual leaf shape. These are like rounded arrowheads, with the point attached to the leaf stalk.

Besides the planted passion flowers, all of the species that are found in Singapore as naturalized exotics also turn up in the Gardens as weeds from time to time. Probably the commonest is *Passiflora suberosa*. It grows well in semi-shaded places usually climbing up fences or tree trunks, and can be seen in the hedges and some of the wilder corners of the Gardens. It has small flowers, barely more than 2 cm in diameter and small purplish black fruits. The leaves of *Passiflora*



*Passiflora suberosa*, a common weed in the Botanic Gardens.

*suberosa* are very variable in shape, often with three lobes, but sometimes simple in outline.

*Passiflora foetida*, another native of tropical South America, can be encountered growing as a weed and climbing fences. The plant is covered in long, sticky hairs and is easily recognised by the three highly divided bracts that surround the flower and the fruit. Some Indian scientists have recently put forward the idea that the bracts may act like a sticky cage protecting the flower and developing fruit from attack by small insects. They showed that glands on the bracts secrete a solution that can break down protein. What is more, the bracts may also be able to absorb the digested material, making the passion-flower a carnivore. *Passiflora foetida*, literally 'stinking passion-flower', gets its name from the unpleasantly scented flowers. The fruit of this species is round, about 2 cm in diameter and orange in colour when ripe. It is edible.

The third weedy immigrant passion-flower is *Passiflora laurifolia*. This is the buah susu, which has large egg-shaped fruits that are edible. It is a bigger plant than the other two naturalized

species, growing over trees. The flowers are attractive with white bands on the purple filaments of the corona. It may be seen around the margins of the Rain Forest.

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*Passiflora foetida*, a common weed of wasteground with its characteristic feathery bracts that surround the flower and the fruit.

Ingo Nux



*Passiflora coccinea*, a beautiful red passion-flower

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