

**‘Christoffelpark den chikí’**

**Mini Christoffelpark-box**

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Photograph front page:

Flower of *Haematoxylum brasiletto* (Brazía)

## Preface:

Curacao is home to over 500 beautiful native tree and plant species and these species often occur on our island already for thousands of years. Many of the Curacao native tree and plant species only grow in this part of the Caribbean and some only on Curaçao. Together, these plant species form a unique ecosystem in which our animals can also flourish. "A barren desert with only spines and thorns" is a comment frequently heard from people on Curaçao talking about the local vegetation and the associated tree and plant species. This comment is however not justified and if you look around you will see the fantastic natural wonders.

Our nature differs every season; we see adaptations of plants to withstand the dry period and some even flower during this period, for example the finely pinnate leaves of the *Caesalpinia coriaria* (Watapana) or the beautiful flowers of *Handroanthus billbergii* (Kibrahacha). During the rainy season we can enjoy the fresh greens and beautiful flowers, such as the flowers of the *Lantana camara* (Flor di sanger). All year round and in every season Curaçao's flora is unique!

To further raise awareness of the importance of our native tree and plant species and to offer a sustainable alternative to the import of non-native tree and plant species, Carmabi has set up a native tree and plant nursery. By planting native tree and plant species, we can safeguard our natural heritage while also beautifying our immediate environment. The trees and plants occur naturally on Curaçao and are therefore well adapted to the climate and often easy to care for.

Carmabi has selected several native tree species that support this vision. The selected species attract animals (i.e. birds), are evergreens and require little maintenance. Seeds of these tree species were collected in the Christoffelpark and cultivated in the Carmabi nursery earlier this year as part of the 65<sup>th</sup> anniversary of Carmabi. In the box "Christoffelpark den chiki", these several months old seedlings are bundled. This accompanying booklet contains information about the tree species in the mini Christoffelpark box with tips for planting and care, as well as interesting "facts" and local uses and customs.

*Carmabi wishes you plenty of fun with the Carmabi box 'Christoffelpark den chiki', an asset to your garden, and thanks you for choosing native tree and plant species.*

## General planting and care tips:

You now have a Carmabi box "Christoffelpark den chikí" with 5 native tree and plant species.

*But: What to do next?*

This chapter describes the different steps and nurturing required for proper development of the tree and plant species from the Carmabi box "Christoffelpark den chikí".

### Repotting

In the coming months, the trees will need time to grow and to further develop the root system. To enable healthy and fast growth, the trees must be repotted to a larger pot. This way, the trees quickly reach a size large enough to be placed in full soil and become part of your garden. A pot that is approximately 10 cm larger in diameter than the previous pot should be used when repotting. This will ensure plenty of space for above-ground growth but especially for root development. A pot size too large can cause soil around the roots of the plant to remain wet for too long and can indirectly result in mould, rot and washing away of the soil. But when are the plants ready to be repotted to a larger pot?

- When the roots are penetrating the holes in the bottom of the pot
- When the pot starts to crack
- When the plant starts to deteriorate (delayed growth, discoloration, etc.)
- When watering the plant, the water is no longer retained in the soil
- When the plant becomes "top-heavy" and is no longer stable in the current pot

Curaçao plants are well adapted to local conditions and can grow with few nutrients and water. The 'tera di Kòrsou', the soil sold at local garden centres, can therefore be used. Please note that this soil often contains other plant seeds, which will develop into seedlings, these are best removed regularly. The "tera di Kòrsou" can also be mixed with some general potting soil, make sure the soil remains loose and airy and drains well.

Water the plants regularly but remember that Curaçao plants do not like wet feet! It is important that the water can easily drain from the pot. So always ensure that there are holes in the pot. Water the plants early morning or late afternoon, this ensures that the water is well absorbed by the plants. Do not water during the heat of day, as the water magnifies sunlight which can easily burn the leaves.

If you want to plant the tree in direct sunlight, ensure that the tree is already used to this. A few weeks before you want to outplant the tree, you can already move the pot to a place with direct sunlight.

## Planting in full soil:

When the trees from the Carmabi box "Christoffelpark den chikí" are between 40 and 60 cm tall, they can be outplanted. This is a rule of thumb and some species are already robust enough to outplant at 30 cm, others require a bit more time. The plant must be robust and strong before it is outplanted. Place the plants some distance away of existing buildings and foundations and consider dogs and cats, who sometimes use young plants as a toothpick or scratching post.

Soil preparation is essential to provide the plants with a good starting point. The following practical tips will help you successfully outplant the tree and plant species to your garden.

- Plant the tree and plant species early morning or late afternoon. This reduces heat stress and promotes growth and development.
- Do not plant the tree and plant species too close together, the plants need enough room to grow and develop.
- Make sure that the outplant location is free of weeds and weed roots, so that the weeds regrow less quickly.
- Dig a hole about twice the diameter and depth of the pot.
- Water the hole well and fill the hole with a layer of mulch. Mulch is organic material that is used to improve soil permeability and to cover the soil to prevent evaporation. Examples are coconut peat, straw, shredded garden waste and dead leaves.
- A layer of compost or manure is placed on the mulch, followed by a layer of (potting) soil. Keep layering mulch, compost or manure and (potting) soil in the hole until half the hole is filled.
- Remove the pot from the plant carefully to not damage the roots.
- Outplant the plant in the hole and layer mulch, compost or manure and (potting) soil around the roots until the hole is filled.
- Form a small depression around the base of the trunk so that the water is retained around the plant for as long as possible and the roots can easily absorb water.
- Cover the hole with a layer of mulch, this reduces evaporation and protects the plant.

Water the outplanted trees regularly and generously. Growth and development will be reduced, when the plant has limited water. Overwatering the plants also reduce growth and development, especially for these typical Curaçaoan species. The soil around the plant must be thoroughly wetted when watering the trees, the soil should be moist up to 10 cm deep. Watering the plant every other day is very important, especially during the first weeks after planting, as this will ensure healthy development of the root system. Over time the plant can be watered less and according the plant's needs ; drooping leaves and a dry soil surface are good indicators of when watering is needed. Yellowing of leaves often indicates an excess of watering.

It's best to have a routine in watering. For example, water the trees three to four times a week on fixed days, but also keep an eye out for the specific needs of the plant. The required amount of watering can change depending on, for example, soil composition and the amount of rainfall.

Plants and trees in the garden may have to deal with pests and diseases. When treating these ailments, take the rest of the nature in the garden in account. Choose natural remedies, like green soap, Epsom salt (magnesium sulphate) and tea made of neem leaves.

## Selected plant species:

In Carmabi's native tree and plant nursery we grow and cultivate a wide selection of native tree and plant species. The selected plant species for the Carmabi box "Christoffelpark den chiki" are listed below and introduced briefly in the following section; with background information and additional information on growth, placement and care. For all species, first the valid scientific name is given, followed by the Papiamentu, Dutch and English names if available.

### Each box contains:

- *Caesalpinia coriaria*: Watapana, Dividivi, Dividivi
- *Conocarpus erectus*: Mangel blanku, Grijsze mangel, Buttonwood
- *Guaiacum officinale*: Wayaká, Pokhout, Roughbark lignum-vitae
- *Acaciella glauca*: Mata di galiña, Wilde dividivi, Redwood

### Complemented with a tree of choice:

- *Bourreria succulenta*: Watakeli, -, Strongback
- *Coccoloba uvifera*: Dreifi di laman, Zeedruif, Sea Grape
- *Cordia dentata*: Karawara di mondi, -, White manjack
- *Handroanthus billbergii*: Kibrahacha, -, -
- *Malpighia emarginata*: Shimaruku, Westindische Kers, West Indian Cherry



View of the Christoffelberg, as seen from the ruins of Zorgvlied in het Christoffelpark.

*Caesalpinia coriaria*:

Watapana, Dividivi, Dividivi

**Background information:** *Caesalpinia coriaria* is the national tree of Curaçao! The trees on the rough North coast, that have grown in spectacular forms and shapes due to the dominant easterly winds, are well known. This tree hardly ever loses its leaves as the leaves are beautifully feather-shaped, and so greatly reduce evaporation and protect the plant. The tree can flower two to three times a year and the flowers are small and white and have a fragrant smell that attract many hummingbirds. The tree can grow naturally into a sizeable tree or can be pruned into a smaller shrub.



*Caesalpinia coriaria* at Savonet plantation house

The pods of *Caesalpinia coriaria* were harvested and exported for their high tannin concentrations. Tannins were used for tanning (softening of) leather and for making dark dyes. The tree is used against various ailments in many different parts of the Caribbean. For example, a decoction of the top of a branch would help against abdominal pain. The glue-like substance, secreted by the green pods, was also used as an adhesive.

**Growth:** *Caesalpinia coriaria* is a slow-growing tree, up to 30 cm per year, and grows up to 5 meters tall.

**Placement:** Exposed to the Curaçao trade winds, the trunk of *Caesalpinia coriaria* will twist and lean. The tree can be exposed to strong, direct sunlight and is grows on most soil types. Roots can grow horizontally and also partly above the ground at times, so outplant the tree some distance away from existing buildings.

**General care:** *Caesalpinia coriaria* grows well and does not need highly intensive care. Water the tree regularly at first until the roots are well developed.



From left to right: Leaves, flowers and seedpod of *Caesalpinia coriaria*.

*Conocarpus erectus*:

Mangel blanku, Grijze mangel, Buttonwood

**Background information:** *Conocarpus erectus* is a fairly large bush or tree. Although this tree is called mangel blanku in Papiamentu, it is not a true mangrove species, but a mangrove associated species. Naturally, the tree grows close to the sea and in salinas, but further inland compared to the true mangrove species. On Curaçao, *Conocarpus erectus* is also regularly found in public spaces and gardens. The species also includes a variety with silver-coloured leaves, called Silver Buttonwood. This variety is however not native to Curaçao and is cultivated for its colour and often imported from South Florida for landscaping purposes. The flowers of *Conocarpus erectus* are greenish-white with long stamens. The fruits are round and red-brown and easily disintegrate.



Historically, the leaves and bark of the *Conocarpus erectus*, due to their high tannin content, were used to soften leather. The hard wood was used to make tools and structural parts of ships. A decoction of the bark was used against eye and skin irritations and was also drunk by diabetic patients. The bark was dried and ground and added to soups to reduce fevers.

**Growth:** *Conocarpus erectus* is a relatively fast-growing tree, about 30 to 90 cm per year, reaching a height of 8 meters tall.

**Placement:** *Conocarpus erectus* grows best when outplanted in open ground. When grown in a pot, the plant can also thrive, but will need regular pruning. The roots have a very low potential to damage walls, patios and foundations, but it is always wise not to place the trees too close to existing buildings. The plant is tolerant to many soils, including brackish or salty soils, and grows well also in strong and direct sunlight.

**General care:** *Conocarpus erectus* grows into a tree with a beautiful crown, but also can be pruned into a hedge. Although this tree can withstand drought, watering is recommended during extreme droughts and will improve growth.

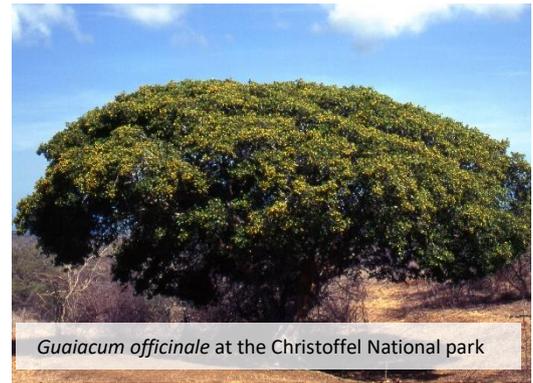


From left to right: Leaves, flowers and fruits of *Conocarpus erectus*.

*Guaiacum officinale*:

Wayaká, Pokhout, Roughbark lignum-vitae

**Background information:** *Guaiacum officinale* is a beautiful tree and a true asset to any garden. The evergreen foliage provides plenty of shade and the tree blooms with beautiful blue-purple flowers. The flowers and fruits attract many bees and birds. The yellow fruits contain one or two bright red seeds. The trunk is smooth and mottled, due to pieces falling off, as if the tree is "shedding".



The wood of *Guaiacum officinale* is very hard and contains a lot of oil, therefore the wood was formerly used to make propeller shafts and pulleys for ships, but also for the production of hammers, rulers and other tools. When the wood of *Guaiacum officinale* is heated, a resin can be collected, which was used as a medicine against rashes and to induce sweating. On Bonaire, the seeds of the *Guaiacum officinale* are used to wash (white) clothes.

**Growth:** *Guaiacum officinale* grows relatively slowly, typical for tropical hard woods, up to a maximum of 50 cm per year. Most adult specimens grow to about 5 meters in height, but taller specimens are found especially in gardens.

**Placement:** *Guaiacum officinale* develops a taproot, which penetrates deeply into the ground and so the tree can access groundwater even during dry season. For this reason, the tree always remains green, which makes the tree easily recognizable in Curaçao's vegetation during dry season. The fruits are sticky, so do not park a car under the tree. The tree has low potential to damage buildings and structures with its roots, but it is advisable not to place trees too close to existing buildings.

**General care:** *Guaiacum officinale* requires little maintenance and can be pruned well. Unpruned, the plant will grow into a tree with a beautiful crown.



From left to right: Leaves, flowers and fruits of *Guaiacum officinale*.

*Acaciella glauca*:

Mata di galiña, Wilde dividivi, Redwood

**Background information:** *Acaciella glauca* forms striking red branches and finely feather-shaped leaves, which reduce evaporation due to the shape. The leaves are very similar to the leaves of *Caesalpinia coriaria* (Watapana). *Acaciella glauca* has yellow-white flowers growing into a beautiful, fluffy ball. The seeds are consumed by chickens, hence the Papiamentu name, the plant however is not consumed by goats.

Historically, roots of *Acaciella glauca* were used for soothing sore throats and mouth inflammation. The juice from crushed roots were supposedly also used externally to cloth open wounds and reduce bleeding.

**Growth:** *Acaciella glauca* grows relatively quickly, up to a maximum of 100 cm per year, and is easy to prune. The plant can grow into a large shrub or small tree, about 2 to 3 meters tall. The plant can tolerate strong and direct sunlight and grows well on different soil types.

**Placement:** Root forming of *Acaciella glauca* does not pose a risk to existing buildings. Outplant the plant so that it is not shaded by bigger trees.

**General care:** *Acaciella glauca* requires little care and can withstand severe droughts. Water the plant regularly at first until the roots are well developed.



From left to right: Leaves, flowers and seedpod of *Acaciella glauca*.

*Bourreria succulenta*:  
Watakeli, -, Strongback

**Background information:** *Bourreria succulenta* is one of the more common trees on Curacao, especially on diabase soils. The tree has very distinctive dark green leaves and the tree retains the leaves for most of the year. The tree has beautiful white flowers and orange fruits. The strong, sweet fragrance of the flowers attracts many butterflies and birds. *Bourreria succulenta* is very drought and wind resistant.



*Bourreria succulenta* in front of Carmabi office

The leaves of *Bourreria succulenta* can be boiled after which the water is consumed. This drink supposedly has energizing properties and possibly act as an aphrodisiac. A decoction of the leaves is used to fight mouth and eye infections. The honey from this plant is said to be very tasty.

**Growth:** *Bourreria succulenta* grows relatively slowly, up to a maximum of 60 cm per year, reaching a height of 6 meters tall.

**Placement:** *Bourreria succulenta* should not be placed too close to existing buildings, due to root formation.

**General care:** *Bourreria succulenta* is very resistant to heat and requires little care. Water the tree regularly at first until the roots are well developed.



From left to right: Leaves, flowers and fruits of *Bourreria succulenta*.

*Coccoloba uvifera*:

Dreifi di laman, Zeedruif, Sea Grape

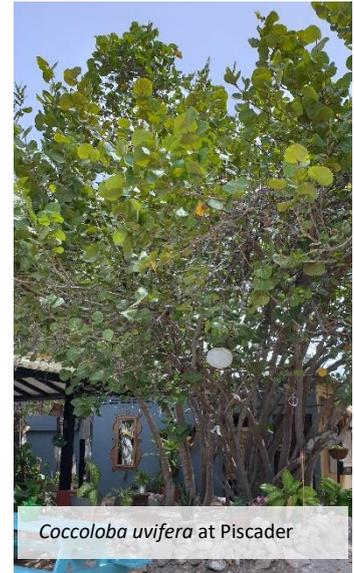
**Background information:** *Coccoloba uvifera* is a well-known plant on Curaçao that is found mostly in coastal areas but is also widely outplanted in gardens. *Coccoloba uvifera* becomes a beautiful, tall tree, but can also be pruned well to form hedges. Under heavy winds, the tree remains small and grows into a low shrub. *Coccoloba uvifera* has large round, stiff leaves. The small white flowers hang in long clusters, after which the well-known blue-purple fruits develop on this cluster. The fruits are edible and can be used to make marmalade or wine.

The wood of *Coccoloba uvifera* is very hard and was used for making furniture. An extraction of the bark can be made into a tea, which would help against diarrhoea. Other various parts of the tree are used against haemorrhoids, anaemia, hoarseness, asthma and general wound care.

**Growth:** *Coccoloba uvifera* grows slowly, up to a maximum of 50 cm per year, and grows up to 8 meters tall.

**Placement:** *Coccoloba uvifera* can be grown in pots or can be outplanted in full soil. When kept in a pot, the tree will grow into a shrub. Outplanted in full soil the plant will grow into a tall tree. *Coccoloba uvifera* is easy to prune and is therefore often used as a hedge.

**General care:** *Coccoloba uvifera* requires little care. Water the tree regularly after planting so that the roots develop well.



From left to right: Leaves, flowers and fruits of *Coccoloba uvifera*.

*Cordia dentata*:

Karawara di mondi, -, White manjack

**Background information:** *Cordia dentata* often grows in a bush-like form, but the long branches can still reach great heights. This tree attracts many birds and also bats, which are attracted by the white, sticky berries. Planting this tree is therefore not only an asset to your garden, but also to the Curaçao fauna. The flowers form beautiful large, white clusters.

The fruits of *Cordia dentata* are very sticky and are therefore used as an adhesive, for example for rolling cigars. A decoction of the flowers of *Cordia dentata* supposedly helps against colds. The fruits of *Cordia dentata* provide a fresh taste to regular drinking water.



**Growth:** *Cordia dentata* grows relatively quickly, up to 80 cm per year, and grows up to 7 meters tall.

**Placement:** *Cordia dentata* is a large, attractive tree with long branches, sprouting from the base, but it is also used as a hedge and is easy to prune.

**General care:** *Cordia dentata* needs little care. Water the tree regularly at first until the roots are well developed.



From left to right: Leaves, flowers and fruits of *Cordia dentata*.

*Handroanthus billbergii*:

Kibrahacha, -, -

**Background information:** *Handroanthus billbergii* is perhaps the most famous tree on Curaçao. When the tree flowers it is a spectacular show of nature. The tree is resistant to drought and loses all its leaves during the dry period. Flower buds form at the ends of the branches and remain dormant during the dry period. After a rainstorm during the dry period, the yellow splendour bursts out and forms a sharp contrast against the dark bark of the tree. These flowers can only be seen for a few days. After flowering, the tree again forms beautiful hand-shaped leaves and long seedpods containing hundreds of seeds that are spread by the wind. The show of flowering *Handroanthus billbergii* can be seen several times in a year. The papiamentu name Kibrahacha (ax breaker) refers to the hardness of the wood.



**Growth:** *Handroanthus billbergii* grows relatively slowly, up to 50 cm per year. The tree can grow up to 15 meters tall.

**Placement:** *Handroanthus billbergii* is a large tree. It is a beautiful sight during flowering. It is advisable not to place this tree too close to existing buildings. The tree is a perfect centrepiece for any garden.

**General care:** *Handroanthus billbergii* is an easy tree that can withstand the dry period. Water the tree regularly at first until the roots are well developed.



From left to right: Leaves, flowers and seedpod of *Handroanthus billbergii*.

*Malpighia emarginata*:

Shimaruku, Westindische Kers, West Indian Cherry

**Background information:** *Malpighia emarginata* is one of the more famous Curaçaoan plants because of the characteristic red fruits, with a sweet and sour taste. According to many, one of the tastiest fruits found on Curaçao. Not only people love the fruits, the fruits also attract a wide variety of birds. *Malpighia emarginata* sheds its leaves during the dry period, but after a few showers it is one of the first plants to form flowers. The flowers quickly turn into fruits and these are often found in the wild early in the rainy season.



The fruits of *Malpighia emarginata* are one of the richest sources of vitamin C worldwide, a couple of berries are enough to provide an adult with the recommended daily amount of vitamin C. The fruits can be made into marmalade and the juice can be used to brew alcoholic drinks.

**Growth:** *Malpighia emarginata* grows relatively slowly, up to a maximum of 60 cm per year. The tree can grow up to 5 meters tall, but usually grows up to about 2.5 meters in height.

**Placement:** *Malpighia emarginata* can be planted in pots or in the full soil. The plant is easily propagated by taking cuttings and is easy to prune and can therefore easily be used as a hedge.

**General care:** *Malpighia emarginata* can get long thin branches if the plant can grow freely and is not pruned regularly. For a full, more dense shrub, the plant should be pruned regularly.



From left to right: Leaves, flowers and fruits of *Malpighia emarginata*.

## Literature and additional information:

The information presented in this booklet originates from the following sources:

- **De inheemse bomen van de Benedenwindse eilanden**, J.A. de Freitas; published by Carmabi
- **Arnoldo's zakflora, Wat in het wild groeit en bloeit op Aruba, Bonaire en Curacao**, edited by A.S.J. van Proosdij; published by Natuurwetenschappelijke studiekring voor het Caraïbisch gebied.
- **Nos mata i palunan / Onze planten en bomen**, Bart A. de Boer; published by Stichting Dierenbescherming Curacao
- **Van Amandel tot Zjozjolí**, D. Veeris; published by Uitgeverij Synthese b.v.
- **Gekweekte en nuttige planten van de Nederlandse Antillen**, Fr. M. Arnoldo; published by De Natuurwetenschappelijke werkgroep Nederlandse Antillen.

If you would like to learn more about our native tree and plant species, the books listed above are a great starting point.

