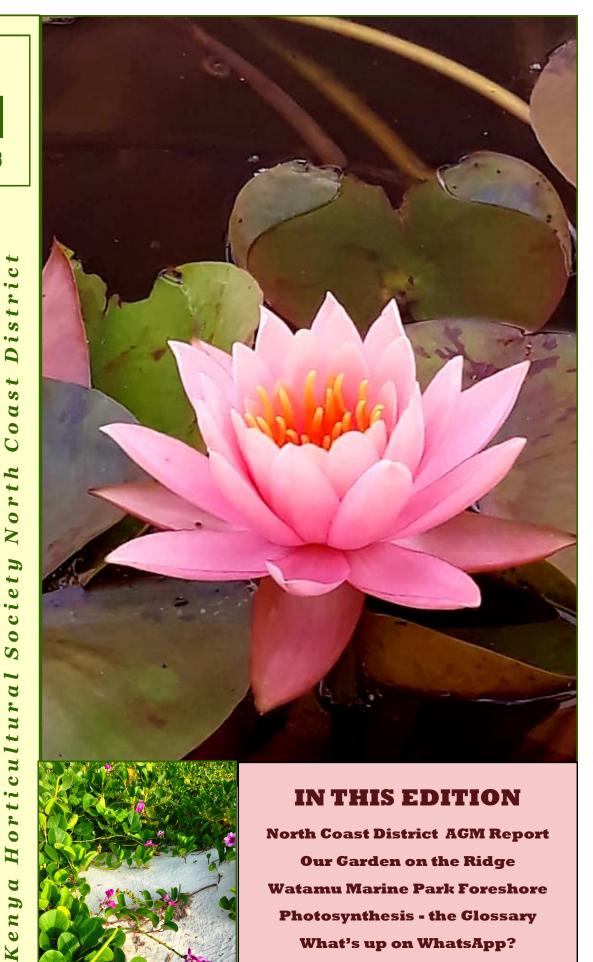
# **July** 2021

Vol 8 Issue 3



#### IN THIS EDITION

**North Coast District AGM Report Our Garden on the Ridge Watamu Marine Park Foreshore Photosynthesis - the Glossary** What's up on WhatsApp? **Gallery of Members' photographs** Calendar and 2021 Rain Check

### **North Coast District News**



#### **Chairman's Notes**

Welcome to the July edition of The Shamba Times. Along with our very active NCD WhatsApp group, the Shamba Times is our main forum for sharing news and ideas about gardening on the coast with our NCD members, and is a vehicle for increasing knowledge and skills amongst all of us who are gardeners.

I am happy to report that our monthly meetings are up and running again. In the last quarter we have held a small AGM in Malindi, a social/gardening event at Ocean Sports in Watamu, and a visit to two very interesting gardens on Vipingo Ridge, south of Kilifi. Reports on all three meetings can be found in this edition of the ST.

But I am aware that not all members are able to attend our monthly meetings with any regularity. Some are working, some live far away from the venue of the meeting, and some are sheltering from the Covid-19 pandemic, staying away from the crowds. We are always delighted to see our members and their gardeners face to face at each of our monthly events, but we must also offer a gardeners' forum for *all* members, regardless of whether they are able to attend meetings or not.

And that is the purpose of the WhatsApp group and the Shamba Times. The WhatsApp group happens in real time and readers of the Shamba Times will be aware that we often pick up threads from the WhatsApp group and expand on them in the Shamba Times. This time it is a piece that started when Ursula Brenneisan posted a photo of *Turraea wakefieldii* on the WhatsApp group, which set me wondering who exactly Thomas Wakefield was - you can read more about him on page 10.

Our WhatsApp group and the Shamba Times are only as relevant or as interesting as you our members make them. I appeal again for members to send us any articles, photos or biographical pieces about themselves and their gardens which they would like to appear in the Shamba Times. We welcome everything that we receive.

And please keep posting on the WhatsApp group. Everything and anything to do with gardening. Stay in touch. We greatly value your membership..

Crispin Sharp.

#### Nymphaea nouchalli var.

Our cover picture this month is of an indigenous day water lily taken in the pond at Wendy Taylor's newly created garden in Kilifi. The lily came from the Katana Baya pond at the late John Gold's home in Watamu, and by all appearances it seems



to be very happy in its new location, This is a day-blooming variety and should ideally be planted in a water depth of 30—45 cms. And as with all aquatic plants, lots of feeding is a must.

# Gardening Kenya

The Kenya Horticultural Society was established in 1923 for the purpose of stimulating and increasing interest and knowledge of gardens and plants in Kenya. The North Coast District extends from Vipingo in the South to Malindi in the North. Annual membership is Ksh 1000 per person (Ksh 1300 per couple). Corporate Membership is offered at Ksh 2000. Members gardeners are accepted for limited membership at a fee of Ksh 500 per annum. Of course we welcome new members, so why not see if you can introduce a new member to us? this quarter?

#### **Contacts**

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NCD Shop Mrs Elfried Hoogeweegen

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### **The NCD 51st AGM**



#### North Coast District 2020/21 AGM - Thursday 23 March 2021

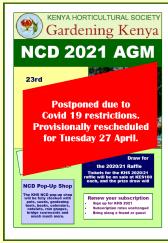
2020 and 2021 have been very challenging years for KHS as the Covid-19 pandemic and its associated safety precautions and governmental restrictions have made it very difficult to conduct a public meeting in compliance with all safety protocols and in line with Kenya government guidelines and restrictions.

In 2020 we were unable to hold any kind of AGM, and postponed the 2020 meeting until March 2021. We had hoped to hold a combined 2020 and 2021 AGM on March 23rd at the Driftwood Club in Malindi, but a surge in Covid cases earlier in the same month meant we could not hold a public meeting at all. Instead we opted for a 'restricted attendance' AGM which was held at the Chairman's home in Malindi on 23rd March from 1000 -1200. The following 14 committee officers, members and general members attended.

Crispin Sharp Rupert Partridge Katana Baya Holly Hamilton Elfried Hoogeweegan Committee Member Gail Outram Deborah Goodhart

Carola Rasmussen Suzanne Bateman Valerie Nicholls Alan Bateman Maarten Hoogeweegan Abraham Kahindi Vanessa Aniere

Chairman Hon. Treasurer Committee Member Committee Member Committee Member





#### The following is a report of the meeting:

- The meeting was convened at 1030 1.
- 2. The Chairman's Report 2019/20 was proposed, seconded and agreed.
- 3. The Treasurer's Report 2019/21 was proposed, seconded and agreed
- The Chairman and Treasurer were re-elected unanimously. 4.
- The 2019/20 Committee was re-elected unanimously. Wendy Taylor and Annie Norton Griffiths have stood down from the committee at their own request.
- Any Other Business included a suggestion that NCD members meet 6. at Ingatuni Safari meet to celebrate the KHS Centenary in 2023. It was suggested that NCD spend money at the Centenary to plant trees that will stand for another 100 years. A vote of thanks to the committee was approved unanimously.
- The NCD 2020/21 Raffle was drawn by members present, and a list 7. of prize winners was distributed to members on the NCD WhatsApp group the same day. Prize winners were notified by telephone or text and prizes were to be distributed by committee members in Malindi, Watamu, Kilifi and Vipingo.
- The meeting concluded at 1200. 8.

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# Our Garden on the Ridge

Vipingo Ridge is an amazing place to garden. We have rich red soil which is easy to cut and shape and everything grows extremely well up here due to the benign climate.

The main challenge is that the ground is very steep. For our garden, we decided that a nice

level lawn was essential so we had to do a massive amount of cut to fill. Most of the house lies well below the original ground level with all the displaced soil now forming a very gentle slope in front of the building.

The biggest obstacle in this process was to avoid destroying any of the existing indigenous trees on the plot. Although many of the trees were part-buried - some as much as two metres deep, most of them have, fortunately, sur-



vived albeit much shorter in height than before. At least, if you part bury a tree, you give it a chance of survival whereas, if you cut one down and bury it, then it will die!



This careful preservation of the natural bush ensured that we had a mature garden within a remarkably short space of time. Indeed, our ongoing mantra has been *keep it simple; keep it indigenous; and keep it wild.* As a result, we have a plethora of birdlife in the garden.

Our living wall was great fun to build. It comprises two walls separated by soil with holes on the outside of one wall. All the plants can push their roots through the holes utilising the soil and water from the centre of the wall. The main creeping fern that has colonised the wall is the Kwale fern, *Polypodium phymatodes*, which keeps green and lush throughout the year.

## by Vicki and David Horsey

After years of sisal growing at the Ridge, we found that the soil was highly We, thereacidic. fore, had to add lime, crushed coral collected from the coral block-cutting quarries in Kilifi being used for this pur-This was pose. added at the rate of two tons per acre what seemed a very high number but based on the advice



of the Rea Vipingo company. Clearly, the advice was right: the uptake of nutrients has been excellent since we put down the coral dust as reflected in our healthy plants.



We also enriched the soil by planting several crops of beans fertilised with NPK 17:17:17 and mulched directly into the soil thereby giving both the humus and the nutrition.

Our garden was totally overrun by the invasive Senna siamea (commonly known by its old name, Cassia siamea) so we made the decision to remove all of them. This took several years since we required the tree cover whilst our newly planted indigenous trees gained sufficient size. So, it was a case of under plant, wait a short while then ring bark or cut down the invasive. The resultant dead trees then stood for some time but a good way of attracting more birds to the garden since they liked to sit on the leafless trees and catch the sun at dawn, as well as eating the dudus that live therein.

Gardening at the Ridge has been rewarding. It was a relief not to have to dig huge holes in coral. Any of our soil shortcomings have been easy to cope with and solve compared to digging in coral and importing topsoil. We are very lucky!

### **Watamu National Marine Park Beach Foreshore**

Realising the unique value of the largely untouched, natural stretch of the Watamu National Marine Park beach, a group of residents over a decade ago created the Watamu Forest & Beach Conservancy. In 2020, we started to document the flora in the *Riparian Zone*, that is, the area lying between the beach foreshore and the Coastal Rag Forest. Within a distance of just four kilometres and in one month alone, we photographed and identified over 80 flowering plants - undoubtedly the tip of the iceberg. Our primary aim is not to produce a scientific study *per se* but rather, through recording the abundance of different species, to try to



enthuse and show people, not least members of KHS NCD, how precious this unique natural area is.

While the foreshore area is a harsh environment where few plants survive, the Forest and Riparian Zone host a vast and diverse amount of special flora and fauna - being a home, nesting and foraging area for many species, some critically endangered, including sea turtles. Indigenous coastal flora is hardy and requires little to no maintenance. It is often very beautiful.



Within the Watamu riparian zone, there are two sub-areas: the Front Dune Zone and Back **Dune Zone**. The front dune area takes the brunt of the natural elements - sun, wind and saltwater spray. It mostly comprises beach sand (except for the cliffs at the entrance to Mida Creek). The variety of vegetation that will survive here is limited and mostly salt tolerant. It is, however, an extremely important area to keep stable as it will obviously be at the forefront of any beach erosion. Here, dead seaweed on the beach provides a protective barrier especially in the Kusi monsoon (March-October) and is an important sand stabiliser. It also provides ground nutrients for the flora in this zone and food for many marine animals.

### by Judy Flatt and Nicky Parazzi

The back dune zone is more protected but still sandy. An increased variety of salt tolerant and other plants can exist here. The following are a few of the more common indigenous plants found here along Watamu's Marine Park Beach which should, therefore, be relatively easily available for any rehabilitation efforts. *Asystasia gangetica*, Beach Bean (*Canavalia rosea*), Beach Gardenia (*Guettarda speciosa*), Butterfly Pea (*Clitoria ternatea*), Flame Lily



(*Gloriosa superba*), Goats Foot Morning Glory/Majani ya Mwaka (*Ipomoea pes caprae*), Mkaa pwani - Mangrove family (*Pemphis acidula*), Salt Bush (*Scaevola taccada*) and Sea Trumpet/ Mkomwe (*Cordia subcordata*). [Those in bold are illustrated within the text in the order shown.]



Whether part of the Marine Protected Areas or as public or private land, the 60-meter area from the Highest High Water Mark along the Kenya coast is protected by law and should be left natural. Riparian areas provide important natural protection for the land against erosion from the ocean, wind and storms. Interfering with a riparian area and its flora can also damage adjacent areas further along the coast and the marine environment. By default, any sea barrier will cause erosion. An untouched, natural riparian beach frontage allows for the cycle of erosion and accruement to continue naturally with little impact to the coastline and properties set back from the foreshore. In areas where there has been erosion or degradation, well thought- out indigenous flora rehabilitation projects of the Riparian Zone can be implemented.

The Marine Park beachfront contributes enormously to making Watamu a unique part of the Kenya coast. It is crucial that it remains conserved and respected in the future.

# **Photosynthesis**



#### **Explanatory Note**

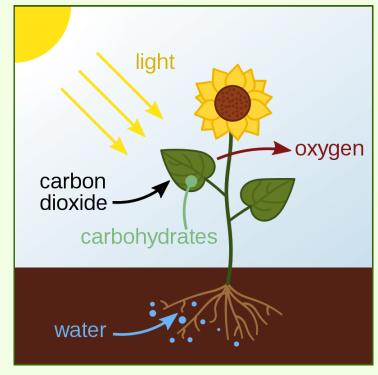
All organisms, including humans, need energy to fuel their growth, development, and reproduction. The sun provides a continuous supply of energy for this purpose. But that energy must first be converted through the process of *photosynthesis*. This is the focus of part 8 of our glossary in-the-making.

#### What is photosynthesis?

Simply put, it is the process by which plants (plus some algae and a few bacteria) make their own food using sunlight and water (H<sub>2</sub>O) and carbon dioxide (CO<sub>2</sub>) with energy in the form of glucose (a sugar) and oxygen being created. The plants then release the oxygen back into the air and store the energy. Herbivores obtain this energy by eating plants, and carnivores obtain it by eating herbivores.

#### Autotrophs and Heterotrophs

Only certain types of organisms make their own food - that is, their fixed or or-



ganic carbon - in this way. They are known as **autotrophs**. Plants are the most common autotrophs in terrestrial ecosystems with the photosynthesis usually taking place in the leaves. In turn, it is the *mesophyll cells* in a middle layer of leaf tissue that are the site of the photosynthesis reaction. Humans and other organisms that cannot convert carbon dioxide to organic compounds themselves are called **heterotrophs** and get their fixed carbon by eating other organisms or their by-products.

#### Chloroplasts and Chlorophyll

Chloroplasts are the factories within a mesophyll cell which are specialised to carry out the reactions of photosynthesis through a light-absorbing pigment called *chlorophyll*. Located in a plant's chloroplasts, the chlorophyll absorbs light mostly in the blue part of the spectrum although the red portion is also significant: the green part of the spectrum is not used. Because of this, the light reflected by the plant leaves is enriched in the green part of the spectrum so we are surrounded by green leaves.

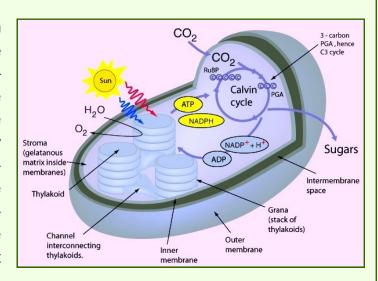


# Towards a Shamba Times glossary of botanical terms Part 8.

#### Light-dependent and Light-independent Reactions

Photosynthesis in the leaves of plants can actually be divided into two stages known as *reactions*. The *light-dependent reaction* takes place in the thylakoid membrane and requires a continuous supply of light energy. The latter is absorbed by the chlorophylls and converted into chemical energy in the form of the molecules ATP and NADPH that the plants can store. At this stage of the process, the water molecules are also converted to oxygen gas forming the air we breathe.

The *light-independent reaction*, also known as the *Calvin Cycle*, takes place in the *stroma* of a plant's leaves - the space between the thylakoid membranes and the chloroplast membranes. It does not require light. Instead, it uses the stored energy made at the previous stage to convert carbon dioxide (absorbed by the plant from the air) and water into glucose. Plants use glucose together with nutrients taken from the soil to make new leaves and other plant parts.



#### Conclusion

Why is all this important to us? Plants together with the other photosynthetic organisms play a key ecological role. They introduce chemical energy and fixed carbon into ecosystems by using light to synthesize sugars and generate oxygen gas as a by-product to form our air. Plants also remove large quantities of carbon dioxide from the atmosphere and use the carbon atoms to build organic molecules. Without Earth's abundance of plants (and algae and some bacteria) to continually suck up carbon dioxide, gas would build up in the atmosphere - as it is now doing to rising levels. This is the challenge of climate change.

#### Sources:

Photosynthesis, Wikipedia, April 2021

*'Photosynthesis'* and *'Chlorophyll'*, National Geographic Resource Library, October/September 2019

'Introduction to photosynthesis', Khan Academy

'Rewilding', Shamba Times, Volume 8 Issue 1, January 2021



### What's up on Whatsapp?

#### Turraea wakefieldii.





In this edition's gallery of members' photographs, in the third row middle, you will find the intriguingly named *Turraea wakefieldii*, a picture of which Ursula Brenneisan posted onto the NCD WhatsApp group in April. The shrub is indigenous to Kenya, grows here on the coast, and is named in honour of Thomas Wakefield (1836 - 1901).

Wakefield was born in Derby and was one of four UMFC missionaries who sailed for East Africa in

1861. The others were invalided home within months, but Wakefield settled at Ribe, inland from Mombasa, and began what eventually became the Methodist Church of Kenya. He stayed for 25 years, often alone, and often ill. His first wife, Rebecca, and infant son are buried at Ribe. Wakefield travelled throughout the coastal area and baptized the first 21 Kenyan converts in 1870. He made translations into Kiswahili and into the language of the Galla, who were believed to be far more numerous than proved to be the case.





As well as a being a missionary, and something of an explorer, Wakefield was also a keen naturalist, and several species were named in his honour including *Euphorbia wakefieldii*, now a threatened species, formerly near-endemic in Kilifi. In 1886 he wrote an account of his travels titled Footprints in Eastern Africa.



NCD members may remember a very interesting piece written for us by Professor Len Newton in which he outlined how it is that plants are named. All plants have names, just like people do. Known as the "International Code of Botanical Nomenclature," the code is based on a two-name (binomial) system developed by the famous botanist Linnaeus. Each plant is given a first name and last name, generally based in Latin, that is unique to each species. However, while new discoveries received Latin sounding names, many names were only a slight disguise for the name of the explorer who discovered them, like Thomas Wakefield. Soon plants were being named after all sorts of people who wanted to be remembered rather than being classified with a Latin description of the plant. As the British Empire ruled the waves and botanical collections developed from around the world, it became the responsibility of the Royal Horticulture Society based largely out of Kew Gardens in London to catalogue every plant. In recent times this responsibility has fallen largely on the Smithsonian Institute, Washington DC.

Because Latin had been traditionally used as the universal language of plant classification since man's first gardens, it was accepted as the easiest way of describing a plant so that gardeners in any language could understand. Thus today plants are classified with four names always written in order starting with it's Family, Genus, Species and Cultivar or variety.

# North Coast District in bloom.

### A gallery of members' recent photographs



Peter Derry, Watamu.

Marion Langham. Kilifi.

Crispin Sharp. Malindi.

# **NCD** monthly meetings

#### A NCD SOCIAL GATHERING AT OCEAN SPORTS WATAMU.

On Tuesday 25th May, thirty two NCD members gathered at the newly renovated Ocean Sports Beach Club in Watamu. Whilst the gathering was primarily an opportunity for members to meet together in a pleasant social setting, it also offered an opportunity for us to learn about the recent renovations to the Ocean Sports property and its gardens. The hotel's



manager, Florian, gave an interesting talk to members about the reconstruction of the hotel in 2020, and how its magnificent makuti roof had been totally renewed using only materials from Lamu. Following Florian's talk, Steve Harries, who had led the garden renovations, guided members through the newly planted gardens, where each mature tree has been carefully labelled with its common and botanical name—good

to see. NCD's own resident Watamu garden fundi, Katana Baya also led members through the gardens pointing out plants of interest, and the challenges of planting so close to the ocean shoreline.

The meeting concluded with drinks and a lunch for those members who opted to enjoy the excellent food and beverages offered by Ocean Sports. Many thanks to Elfried for running the pop-up shop and to all members who attended from Malindi, Watamu and Kilifi.

#### OUR PLANNED VISIT TO TWO GAR-DENS ON VIPINGO RIDGE

As members will be aware, we had planned to visit two gardens on Vipingo Ridge on Tuesday 29th June, at the kind invitation of Vicki Horsey and Colleen Street. Sadly the weather did not allow our June 29th visit to go ahead, but we have rescheduled the same event for Tuesday 6 July with all the same elements included, save hopefully for the heavy rain that washed out the meeting the week before.

Please note that if you would like to attend this rescheduled visit on Tuesday 6 July, we do need you to confirm with Wendy Taylor (the telephone number is on the adjacent flash) and supply your vehicle registration number for us to obtain a gate pass for you to enter Vipingo Ridge.

Here's hoping the rain holds off and we can enjoy a slightly delayed garden visit, but one that remains most inviting for all our members.



## **NCD** diary of events





#### 27 July 2021 - We visit Evie Walsh's garden at Che Shale

We are very fortunate to have been invited by Evie Walsh to visit her wonderful shorefront garden on a beautiful stretch of beach north of Malindi at Che Shale. This extraordinary garden has been developed on a large plot of sand and bush and designed and planted by one of our district's leading horticultural professionals, owner of Malindi Tropical Nursery and very well-known to most of our members. We shall be offering the usual tea and coffee welcome to members at 1000, but why not bring a picnic and stay for lunch, a swim, a snooze, or a walk on the beach?



#### 24 August 2021 - A visit to Greenfix at Ganda

We invite members to visit Greenfix, a new nursery established inland from Malindi at Ganda and over looking Lake Chem Chem and the Sabaki River. Greenfix is home to a major hydroponics project and a production line of salad leaves and vegetables.

We see how to grow rocket, lettuce and other salad leaves and vegetables in soil and in water. We meet the couple behind this new nursery, and we offer our mem-



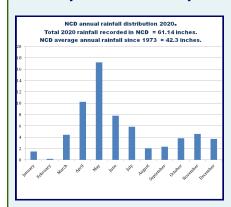
# 28 September 2021 - A day out at Carissa Nightingale's remarkable beach-front garden.

Members may recall that earlier in the year, Carissa Nightingale extended an invitation to NVD members to visit her remarkable garden on the shores of the Indian Ocean, south of Kilifi. Sadly, before the visit could take place, circumstances changed in and around the garden, and we had to postpone. But we are back on again, and we hope to have a guest speaker at this event. Coffee at 1000, and please do bring a picnic lunch.

### A 2021 Rain Check



In the North Coast District we are all painfully aware of how little rain has fallen in our district in the first half of 2021, though rainfall has improved in June. Our WhatsApp group provides a very useful daily forum as to what rain is falling within our district, and where. Rainfall along the northern coast is often spread unevenly. Some years Kilifi southwards gets more rain than Watamu, Malindi and Lamu, and occasionally it is the other way around.



But in 2021, throughout the north coast the rains have come late and we are behind where we should be for the first half of the year. The 2020 NCD Rainfall Chart shows a total rainfall of 61.14 inches in 2020, and 41.39 inches in the first six months of



the year. Average annual rainfall in our district is 42.3 inches.

In the first six months of 2021, we have received 8.27 inches of recorded rainfall, much of it in the second half of June (average is 4.87).

Of course, the second half of 2021 may produce more rain than the first, but as the rainfall pattern of last year's chart shows, that is unlikely. As mere gardeners, much as we yearn for it we do not depend for our livelihoods upon the rain. Spare a thought though for those who do.