The Shamba Times

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Kenya Horticultural Society North Coast District

KENYA HORTICULTURAL SOCIETY

10 YEARS

North Coast District

IN THIS EDITION

Our cover photos

Our cover this month is a montage of pictures taken at this year's NCD Gardeners' Courses which were delivered in Watamu, Kilifi, Vipingo and Malindi.

As part of the KHS Centenary celebrations, this year we gave our courses to gardeners absolutely free as acknowledgement of their key role in the care and maintenance of our gardens and to the importance of their getting access to ongoing training and skills development.

Over 100 NCD gardeners attended training this year, and the feedback from employers was that the gardeners returned to work with greater knowledge and skills, and with an increased motivation to do their job well. That's training for you!

Chairman's Notes

Hello everybody, and welcome to this, the fourth and final edition of The Shamba Times of 2023. How the year has flown by.

2023 marked the First Centenary of the existence of the Kenya Horticultural Society, and as such was a year in which KHS and its 10 districts set out to mark this 100 year milestone with special events, celebrations, and doing some good for the communities in which we live and garden.

In our district, the North Coast, we set about planting 100 indigenous trees to raise awareness of Kenya's trees and to create a seed bank for the future. We planted our trees in the secure botanical garden at Pwani University in Kilifi, and we shall meet again at Pwani at the end of November to review progress, and to see how the saplings are doing.

NCD also held a Centenary Raffle to raise funds to landscape the newly constructed centre for disabled children, Kuhenza, out near Gede. Thanks to the amazing reach of one of our new members, Maike Pottgeiter, we amassed a treasure trove of valuable prizes and sold more than 500,000 shillings worth of tickets. Our draw took place at Ocean Sports in June and became our centenary social event too. Work on the landscaping at Kuhenza began shortly thereafter and is going well. We shall hold a meeting there early next year.

And to benefit our gardener members, we gave away our 2023 Gardeners' Courses at no charge to mark the centenary. We celebrate the success of those courses on the front cover of this edition of The Shamba Times.

So, yes, it's been a busy year, and it ain't over yet! Thank you our members for your support.

Crispin Sharp.

What's up on WhatsApp?

A NAUGHTY DUDU AND A NOVEL REPAIR JOB

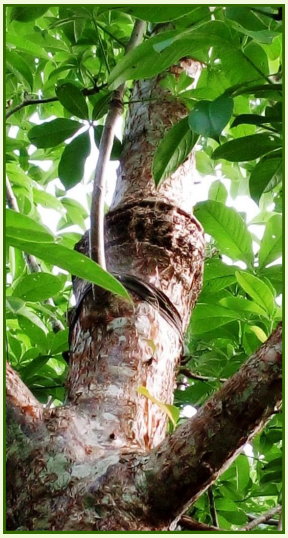
It all started with Simon Walsh's posting a shot of a large and formidable-looking *dudu*, which he described as "… naughty" as evidenced in the destruction it had wrought on the trunk of a baobab tree, as seen in the second photo.

While Pauline Balletto quickly informed us that it was commonly - and aptly - known as '*Kata Miti',* it was not long before we found out its proper name - from Norbert Rottcher, whose posting provided this and a great deal more information about the insect, as follows.

Paranaleptes reticulata or the Cashew Stem-Girdler is found only in Kenya and Tanzania and most commonly, along the coast, where it attacks cashew, kapok, eucalyptus, mvuli, bougainvillea, baobab, lannea, hibiscus, frangipani, figs, sterculia and casuarina and, in Norbert's experience, desert rose and several indigenous trees, too.

The purpose of ring-barking or "stem girdling" is to kill the branch/stem above that point in order to provide dead wood in which to lay eggs. Unlike many other longhorns, which bore into live wood and lay eggs, these larvae prefer dead wood. They are laid in transverse slits on the stem and feed outward from there. The life cycle is around one year.

According to a book on agricultural pests, dealing specifically with cashew plantations, control involves breaking off branches/stems above the girdled point and burning without any need to do anything to the wood below the girdled point. The book makes no mention of pesticides. As the adults' main purpose is to mate and lay eggs, the best time to stop their spread is during the larval phase.



Meanwhile, in his postings, Baraka provided us with an illustrated account of the method he uses to repair such damage in Ngamani, Mtwapa. "I peel a piece of fresh bark from a branch of the same type of tree and bind it around the affected area." From his two photos, the repairs look amazing - and, in his own words, "They work especially for baobabs."

Perhaps the last word goes to Simon, who after learning more about the *dudu* from the KHS NCD WhatsApp platform, concluded: "Well, if it is a native, then I will embrace it - a majestic insect."

Fabulous Flies and ...

Flies are a much-maligned group. We remember them most for being annoying, biting, spreading disease and illness. But this is just a tiny part of one of the most megadiverse, useful and ubiquitous creatures on the planet. They are everywhere and do everything so it's surprising so few are a problem and how little we know about them. About 160,000 have been described so far (diptera.org website) - just over 10% of named animal species. This list is expanding at about 1% per year but there's an estimated 400,000 to 800,000 fly species so it's going to take a while. The understanding of the larval stage is poorly understood with it being unknown in most described species. A good estimate is that 10-15% of all animal species are flies. Also, the number of individuals dominates the insect population in most terrestrial and aquatic habitats.

Aristotle gave the order its name over 2000 years ago - *Diptera*, *di* meaning two and *ptera* meaning wings. That's one of the easiest ways to tell you're looking at a fly. They have a bulging muscle packed middle segment with a pair of wings attached. There are exceptions like the mayfly (not a fly) and a few others have a single pair of wings, and some flies don't have wings, but it's a good place to start. The second pair of wings has been reduced to a small stalk called a *halter* that helps maintain stability in flight. In evolution when a new and useful trait appears, it can develop into a new line. The old line continues to develop and branch but this is how more recently evolved species can be recognised. Lines that are unable to compete or find themselves in an environment that is changing faster than their ability to adapt will die out (possibly the greatest threat to our existence and entirely self-inflicted).

For flies, there is a convenient split between the older (lower order) *Nematocera* and the more modern *Brachycera*. The lower orders are more delicate with long appendages like the crane fly *[photo 1]*, moth flies, mosquitos, midges and gnats while the higher orders tend to be more robust and compact like horse flies, robber flies *[photo 2]*, long-legged flies *[photo 3]*, flower flies, fruit flies and blow flies *[photo 4]* (listed in sequence of evolutionary appearance). The older the evolutionary age of a species, the more likely it is to depend on an aquatic habitat.

... their Marvellous Maggots

Almost all flies have a life cycle that involves four stages: eggs, larva (usually three instars or stages), pupa and adult. The eggs can develop once laid - in the egg while still in the female to hatch straight after being laid, or born directly as larva in any of the various instars. Ephemeral food sources need faster development for the larvae to complete their growth before the resource is gone so a head start can help. This can be taken to an extreme where the larvae pupates immediately after being born effectively eliminating the larval stage altogether.

The larvae are mostly vital for the habitat in which the live. Acting as scavengers and decomposers, they help clean up rotting elements and help nutrients return to the food cycle. Blowfly larvae are still used medically with great success in cleaning the dead tissue from wounds as they only eat the dead tissue (they come in handy tea bag packets). The pupae also come in many different forms, some immobile while others are highly mobile to help escape threats. This though is a mostly inactive stage.

Most larvae can be found in aquatic or moist enclosed terrestrial habitats such as underground, inside fruit, decomposing organisms or within hosts. They don't have true jointed legs but can have prolegs used for holding on to a substrate as in a flowing river, on a host or prey. The lower orders tend to have well-developed eyes and antennae while the higher orders have mostly abandoned or reduced these and become maggots without a distinction between head or thorax. The larvae can be herbivores, scavengers, decomposers, predators, parasites or not eat at all. When it comes to dipterian lifestyle, if you can think of a way to live some fly has probably got there first.

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Some larvae have dispensed with the normal adult stage and can go directly to eggs. The vast majority develop into adults and, as the name suggests, most of these can fly. They can vary in size from 0.4mm to 7cm. Like the larvae from which they came, they have every imaginable lifestyle. For most flies, the adult stage is the shortest with the only requirement being to produce eggs and deliver them to a suitable habitat.

Most flies are fluid feeders and nectar and honeydew that some flies can taste with their feet (probably an important food for early flies as they developed long before flowers) are popular sources of food. Many of the males of lower orders don't feed at all while some of the females stock up on blood to provide the protein needed for egg production (it's true - male mosquitos don't bite). Parasites and predators also exist amongst the lower orders.

(continued on the next page)

By Peter Derry

The older species of *Brachycera* such as horse, robber, bee and soldier flies have the normal range of feeding behaviours *[photo 5 bee fly]*. Our much-loved tsetse fly is devoted to blood with both male and female having it as an exclusive diet. Some nectar feeders such as bee flies (*Bombyliidae* - an important pollinator) have developed long straws to access nectar. It's good for plants if there is a single pollinating species that is reliant on that flower. The pollen isn't then wasted by being transferred to other species. This leads to some dramatic adaptations seen in some orchids or the longer tube lengths of flowers matched by the long structures on some flies. Some flowers cheat, however, and attract flies with the smell of rotting carrion where the flies lay eggs which will hatch and starve. Robber flies and long-legged flies are skilled hunters so help to keep a balance in the number of other insects.

Syrphidae (flower or hoverflies) *[photo 6 hoverfly]* is one particularly important family of flies. The larval stage can be an effective predator of pests and the adults are important pollinators. More research is being focused on these and a few others as the risk of relying on the honey bee as the only commercial pollinator is recognised. The importance of flies in pollination is only now being understood and most families are involved. There are mosquitos that pollinate orchids while the cocoa tree relies on flies for pollination (so no flies - no chocolate), blow flies are used to pollinate orchards and so on. Flies have a central role in the web of life, contributing to all aspects of life, death and regeneration. They are known for spreading disease, biting and being generally annoying but for the most part they are life givers, garbage disposers, pest controllers, healers and generally extraordinarily beautiful. We should celebrate not swat our flies.

Photo credits: Peter Derry

KHS NCD on-going projects

KHS NCD PROJECTS : PROGRESS REPORTS

KHS NCD Centenary Tree Planting

On 2 August, 2023, a visit was made to check the well-being of the 100 different species of saplings that were planted at the Pwani University Botanic Garden at our event on 16 May, 2023 as part of the KHS 2023 Centenary celebrations (see *The Shamba Times,* July 2023 Vol. 10 Issue 3 for full write-up of the latter). Caroline Wanjiku, one of Dr. Rose Kigathi's team supporting the project, led our inspection.

What struck one immediately when setting foot in the Botanic Garden was the impact of the long rains: everywhere very green and grass growing as high as an elephant's eye. A bit of a challenge for our saplings perhaps and for us to be able to access them?

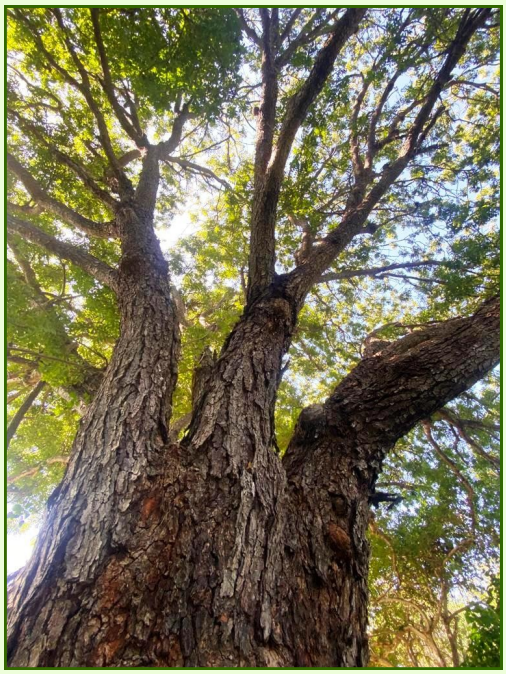
Not so in one of the two areas, which is home to the saplings: here the grass had recently been cut as seen in the photograph allowing a close inspection. All the plants looked healthy. While the long grass prevented our accessing the other area, Caroline assured us that the plants were equally healthy. Indeed, there has been a 100% survival rate amongst the 100 different species.

Time though to activate the care and maintenance programme using the funds raised through our Sponsor a Tree scheme so that, as a priority, the grass and weeds are kept under control. The Pwani University team will be able to put in requests for funding of this and other care/ maintenance requirements - compost, water, etc. on an as and when basis. In the first instance, funds will be released to cover the cost of two labourers to be hired for three days.

My garden: neither garden nor completely bush

Gardening is trying to tame nature. And when you don't succeed, then we use the terms "bush" or, under tropical wet conditions, "jungle". Sometimes you don't succeed but you keep trying so it becomes neither garden nor completely bush or jungle and that is the way to describe our plot. But it wasn't always like that…

Our plot lies in Malindi's Marine Park area. It was first owned by Betty Fenwick, an Australian gynaecologist who had married a coffee farmer from Northumberland who had settled in Kiambu. They had three children. Betty became a widower in 1953. In 1956, she bought 100 acres of a square plot with some 700 m of seafront from an Arab gentleman (@ 14,000 sterling pounds). Most of the land was of coral; it had a coral cliff overlooking the sea and a long stretch of beach, which is now the Marine Park beach. Betty divided the front beach land into plots and sold them to friends and also to farmers from upcountry. She settled in one that included two magnificent baobabs and planted her provisional home between them and the sea.



Later, Betty Fenwick divided her original plot and sold one half to a family called Beverly. The Beverly family cleared the neems, built a swimming pool and planted many flamboyants, frangipanis and mango trees. The only neem not cut down has grown into a huge and beautiful tree as illustrated. The home consisted of several small buildings scattered around the plot - the kitchen, the bungalow rooms, a studio, the garage and so forth. Then the Beverly property came into the possession of the Standard Chartered Bank, which used it as holiday accommodation for their employees. It was managed by a German manager, who at some point installed a desalination plant!

In the meantime, the Spicers lived in the other half of the original plot and developed a fresh style of garden to that next door. Lots of casuarinas were grown at the front of the plot, many of the neem trees were retained, four Indian Almond trees were planted, and much of indigenous bush left both at the front and back of the house. Eventually, in 2000, the old, corrugated shelter from the war was replaced by a house and the landscape was changed. Tons of soil was brought in to cover the sandy front area and grass was planted. The tall trees were left to grow along the palms. At the back of the house, some decorative plants, ferns, hibiscus and lilies were kept in pots protected from the strong salty wind blowing from the north.

By Ana Parada

Eventually, the Spicers got the Beverly plot back though leaving the wall which divided their properties intact. Both gardens with their distinctive styles looked tidy and well looked after. Till we came to live here in 2012…

In my first years of living here, I firmly believed that if one employed two gardeners, surely things would be taken care of without one having to be worried too much.

Lakini… at some point, a few calamities woke me from my delusional lethargy. The neem trees started to be totally overwhelmed by camel weed. An experienced gardening neighbour pointed out to me that this was not a good thing and explained that it must be urgently removed before it overtook the whole garden - through ruthless pruning. We were horrified at first to watch all those neem trees brutally pruned - only to see them resurrected with greater strength after a few months. It is in this way that I learnt how to distinguish between a neem and the other trees that is, those that apparently the weed didn't, and what I now see as my first act of gardening!

Since then, the wall has been knocked down, the front lawn has been neglected looking now more like a meadow with lots of different grasses and small bush growing (as a result, we think, of the topsoil which was added), the area of potted plants - my *maridadi* area - has been reinstated (as illustrated), the bush in the front has been encouraged to grow even more extensively, many neems have been cut down and, recently, we have

lost five of the casuarina but other trees, which have fallen down, have been left to have a second life horizontally, other, small indigenous plants are thriving here and there … and the bees have moved in!

NCD Monthly Events Report

The Sex Life of Plants.

A talk on plant reproductive systems by Dr. Dino Martins.

On Thursday, 14th September, over fifty KHSNCD members settled in the "lecture theatre" also known as "car port" of our Chairman's home in Malindi to listen to Dr Dino Martins enlightening and educating us about the survival and reproduction methods of plants. Those of us who feel that we have been around for a very long time were staggered to discover that some cycads live for 800 years and only become reproductive at 400 years old. The cycads on the coast of Kenya become reproductive at 18 to 20 years old. Cycads have existed for around 350 to 400 million years and are gymnosperms. This means that their seeds are exposed (naked) and not hidden within fruit or pods and they do not produce flowers or fruit. There are about 1,000 species of gymnosperms, including conifers and ginkgos. Cycads are dioecious, meaning that each plant is either male or female. To reproduce they require wind or a particular weevil, that lives in the female cycad, to develop into a beetle, travel from the female to the male cycad, collect pollen and then to return to the female cycad to deliver the pollen. A study of cycads existing in the Matthews range of mountains in northern Kenya has revealed that two-thirds of the plants are male and so only a third of the cycad population is capable of producing seeds.

Around 150 million years ago, angiosperms evolved to join gymnosperms on this planet. They have both flowers and fruit and their seeds are developed within an ovary encased in a fruit. There are about 300,000 species of angiosperms. Dino passed round samples of angiosperms to show how different shapes and colours of flowers were specifically suited to particular pollinators - butterflies, other insects, bats, birds, animals and wind. Some plants deceive and lure pollinators searching for delicious nectar by using colour and scent although they produce no nectar. Others are designed to self-pollinate and yet others produce seeds, bypassing pollination altogether. Dino pointed out that much research is still needed into this complex subject of plant reproduction. It is still not known how desert roses produce fertilized seeds.

Once the seeds are fertilized, the parent plant faces the same dilemma as many human parents - is it more beneficial that their offspring stay close to the parent, where conditions have proved favourable, but certain hazards exist, or that they disperse far away in the hope of landing where conditions are even better? Dino referred us to the Jansen-Connell hypothesis, which deals with this dilemma and its various solutions.

Then Dino surprised us by raising the subject of communication and interaction among plants and between plants and humans. He cited a study involving two groups of plants, one of which was exposed to loud music and to the other of which soft, classical music was played. The first group became sickly, while the second group flourished. He referred to studies being undertaken that show that plants have many ways of communicating.

Dino's research and expertise in this field has proved beneficial to many. He mentioned a large and flourishing plantation of vegetables grown in the Nguruman mountains for export to the Asian market in London. The area is arid, but water flows down from the mountains and is harnessed for the plantation. However, the flourishing plants produced no seeds or fruit. His team discovered that the particular pollinator required was being killed by the insecticide used to destroy other insects. The project is now highly successful. Dino has also helped Bidco Africa Ltd to improve its yields of sunflower seeds and other produce by identifying the required pollinators and the method of attracting and protecting them.
Dino's little tip: butterflies are very attracted to red flowers, while bees prefer blue, yellow and white flowers.

Crispin closed the meeting by thanking Dr Dino Martins for his generosity in giving so much time so often to share so entertainingly with KHSNCD members his boundless and impressive knowledge of horticultural and entomological matters. His lectures are deeply appreciated and thoroughly enjoyed. Crispin then invited members to wander round his luxuriously lush green well watered garden. His plants clearly love the gentle classical music that is usually to be heard from within his house.

Plants and trees of the NCD.

A gallery of members' recent photographs

Ochna thomasiana
Wigi, Watamu.

Canna lily
Sandra Riches, Watamu.

Crossanda pungens
Wendy Taylor, Kilifi.

Euphorbia milii
Crispin Sharp, Malindi..

Guettanda speciosa
Wigi, Watamu.

Euphorbia tithymaloides
Shirley Dall, Shanzu.

Dracaena
Sandy Erikson, Watamu.

Dracaena
Maike Pottgeiter, Malindi.

Dracaena
Nicola Morrell, Kilifi.

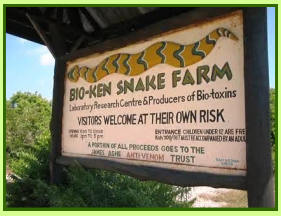
Mansoa alliacea
Holly Hamilton, Malindi.

Cryptostegia grandiflora
Sandra Riches, Watamu.

Gardenia posoquerioides
Mariola Saliola, Malindi.

Diary of upcoming NCD events

24 October 2023 Watamu - A visit to the Snake Farm



We invite members and their gardeners for a morning at the Bio-Ken Snake Farm where we shall be guided around the farm and will learn of the work done there in collecting anti-venom serum and in protecting indigenous snakes and reptiles in the wild. We have to teach our gardeners that snakes are a valuable part of nature and should be respected and protected, not killed on sight. Our visit to the snake farm in Watamu is likely to be both very popular and highly educational and informative.

November 2023 - To be announced

Details, date and venue of our November meeting will be announced to members through the KHS NCD Whatsapp group and by email.

We hope to have a speaker and to hold the November meeting in Kilifi.

Watch this space!

25 December 2023 - The traditional Christmas Day NCD dhow cruise

This is a delightfully informal and relaxing way to spend Christmas Day, cruising up Mida Creek and back, to anchor for an excellent lunch of fish, lobster, prawns and traditional Christmas turkey on board the beautiful Turtle Bay Beach Club hotel dhow. This KHS NCD event is open to all members and their guests but being very popular, booking is on a first come first served basis. Payment is not required until mid-December. If you would like to spend Christmas Day on Mida Creek with the NCD, please contact **Holly Pritchett** on **0722244256** .

KHS North Coast District

KENYA HORTICULTURAL SOCIETY
Gardening Kenya

North Coast District Contacts

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NCD MPESA	**0702 767 177**
NCD Shop	**To be announced.**

To join the KHS North Coast District WhatsApp group, please contact Crispin Sharp on 0798 902 442 and ask to be added to the group.