

Chapter 1 : Trees Archives - Okavango Guiding School

Veronica Roodt wrote two books: "Common Wild Flowers of the Okavango Delta," and, "Trees and Shrubs of the Okavango Delta." These are the bibles. You will find no better and most others of shallow value.

Floods[edit] The Okavango is produced by seasonal flooding. The high temperature of the delta causes rapid transpiration and evaporation, resulting in a cycle of rising and falling water level that was not fully understood until the early 20th century. This turgid outflow means that the delta is unable to flush out the minerals carried by the river and is liable to become increasingly salty and uninhabitable. Water salinity is reduced by salt collecting around plant roots as most of the incoming water is transpired by plants. Peat fires might contribute to deposit salt into layers below the surface. The low salinity of the water also means that the floods do not greatly enrich the floodplain with nutrients. Trees and grasses grow in the sand around the edges of the islands that have not become too salty yet. Historically, it was reserved as an exclusive hunting area for the chief. It now provides the core area for much of the resident wildlife when the waters rise. The rains quickly dry up leading into the dry, cold winter months of June to August. Daytime temperatures at this time of year are mild to warm, but the temperature begins to fall after sunset. Nights can be surprisingly cold in the delta, with temperatures barely above freezing. They leave with the summer rains to find renewed fields of grass to graze and trees to browse, then make their way back as winter approaches. Large herds of buffalo and elephant total about 30, beasts. Fish sizes range from 1. The same species are found in the Zambezi River , indicating an historic link between the two river systems. It is a bit larger than an impala with elongated hooves and a water-repellent substance on their legs that enables rapid movement through knee-deep water. They graze on aquatic plants , and like the waterbuck , take to water when threatened by predators. Only the males have horns. During the flood season, they float well above the sandy river bed with roots dangling free in the water. This gap between bed and roots is used as shelter by crocodiles. The plants of the delta play an important role in providing cohesion for the sand. The plants capture the sand, acting as the glue and making up for the lack of mud and in the process creating further islands on which more plants can take root. This process is not important in the formation of linear islands. They are long and thin and often curved like a gently meandering river, because they are actually the natural banks of old river channels which over time have become blocked up by plant growth and sand deposition, resulting in the river changing course and the old river levees becoming islands. Due to the flatness of the Delta, and the large tonnage of sand flowing into it from the Okavango River , the floor of the delta is slowly but constantly rising. Where channels are today, islands will be tomorrow and then new channels may wash away these existing islands. Many lodges have low environmental-effect policies. The Bugakhwe and anikhwe are Bushmen , who have traditionally practised fishing, hunting, and the collection of wild plant foods; Bugakhwe used both forest and riverine resources, while the anikhwe mostly focused on riverine resources. Within the Okavango Delta, over the past years or so, Hambukushu, Dceriku, and Bugakhwe have inhabited the Panhandle and the Magwegqana in the northeastern Delta. The Wayeyi have inhabited the area around Seronga as well as the southern Delta around Maun , and a few Wayeyi live in their putative ancestral home in the Caprivi Strip. Within the past 20 years many people from all over the Okavango have migrated to Maun, the late s and early s over 4, Hambukushu refugees from Angola were settled in the area around Etsha in the western Panhandle. The Okavango Delta has been under the political control of the Batawana a Tswana nation since the late 18th century. During a hiatus of some 40 years, the tsetse fly retreated and most Batawana lived in the swamps from through the late s. Since then, the edge of the delta has become increasingly crowded with its growing human and livestock populations. This residual moisture is used for planting fodder and other crops that can thrive on it. This land is locally known as molapo. During to , the floods were more intensive than normal and flood recession cropping was not possible, so severe food and fodder shortages occurred. In response, the Molapo Development Project was initiated. It protected the molapo areas with bunds to control the flooding and prevent severe flooding. The bunds are provided with sluice gates so the stored water can be released and flood recession cropping can start. While proponents argue that the effect would be minimal, environmentalists argue that this project could

destroy most of the rich animal and plant life in the Delta. His documentary *The End of Eden* portrayed his lobbying on behalf of the delta.

Chapter 2 : Okavango Delta Safaris - wildlife of the Okavango Delta

Trees and Shrubs of the Okavango Delta. Medicinal uses and nutritional value *Trees and Shrubs of the Okavango Delta is not only an identification Guide but also explains their medicinal uses and nutritional value.*

See Article History Alternative Titles: Cubango River, Kubango River, Okovango River Okavango River, also called Kubango River, fourth longest river system in southern Africa, running basically southeastward for 1, miles 1, km from central Angola , where it is known as the Kubango, to the Kalahari desert in northern Botswana , where the river terminates in an immense inland delta known as the Okavango Swamp. The riverâ€™formerly sometimes called the Okovangoâ€™takes its name from the Okavango Kavango people of northern Namibia. David Livingstone , the Scottish missionary and explorer, and the first European known to have seen the Okavango, reached its swampy delta in It flows south and then southeastward through Angola in a course that is initially broken by rapids. Along its middle course the Okavango forms part of the Angola-Namibia border. Soon after entering Botswana the Okavango begins to widen as it enters the flat, swampy tract in which it terminates. About 70 miles inside Botswana, the river spreads out to form a triangular-shaped delta, the base of which extends for about miles km. This delta region, less than half of which is swamp year-round, covers an area of about 6, square miles 16, square km. The river is subject to drastic changes in flow along its length because of seasonal variations, the reception of tributaries, evaporation, and absorption into the riverbed. In its uppermost course, the Okavango flows through woodland country that becomes less densely forested as the river progresses southward. Further to the southeast, the river passes through areas occupied by dry savanna, i. In the Okavango Swamp itself, the vegetation falls into two main typesâ€™dense clumps of papyrus reeds and other aquatic plants in the river and floodplain channels; and patches of woodland and savanna occupying the slightly higher parts of the delta. Except for small craft, the Okavango is virtually unnavigable. A major problem for the Tswana Batswana people, the main inhabitants of the Okavango delta, has been control of the tsetse fly. The Moremi Wildlife Reserve covers 1, sq mi 3, sq km of the northeastern corner of the Okavango Swamp. Its teeming wildlife includes lions, cheetahs, buffalo, wildebeests, hippopotamuses, zebras, wild dogs, crocodiles, and other species. Birds include storks, ibis, herons, egrets, cranes, and weaver birds. There are also numbers of ducks, geese, and quail. Varieties of fish include bream, pike, barbels, and tiger fish. Learn More in these related Britannica articles:

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We were awakened at 5 am by the usual drumbeat and sleepily hauled out of bed. Having packed the night before, we headed to breakfast by 5: After the ride to Kasane International Airport we flew into a dirt airstrip not far from our private Wilderness Safari tented camp located adjacent to the Moremi Game Reserve. The tented camp is located on the Sankoyo Concession, a wildlife management area adjacent to the Moremi Game Reserve. Get Directions Wildlife management areas adjacent to Reserves and National Parks attempt to protect wildlife, which of course range outside of protected areas, and habitat in these areas by engaging local communities in conservation and tourism activities. Members of local villages develop or allow private safari companies to develop lodging in their area. We were greeted at the airstrip by Sixteen and Julius the game drivers for our stay in the Okavango Delta. Also greeting us was a stiff, chilly wind which caused us to quickly grab the ponchos left for us in the game vehicles. While the terrain in the Okavango Delta region seemed familiar to us, it was distinctly different as well. The first thing we noticed was the very strong scent of sage. Five of us in our game vehicle were Californians and are familiar with the aroma of sage that grows along the eastern side of the Sierra Nevada mountains. It was just like that. At the time there were no elephants in the area, so the trees grew tall and strong. When elephants came to the area they began feeding on the smaller palms and developed a taste for hearts of palm, just like us. They were unable to feed on the very tall trees, so they remain undamaged, but the elephants continue to feed on the smaller palms. For this reason there are no intermediate-sized palms in the area. Sixteen also warned us to watch for thorn trees as we drove through the wooded areas. The thorns were indeed very sharp. We were in for yet another surprise when we reached our tented camp. The camp is built on platforms, perhaps 6 feet off the ground with elevated walkways between the dining area and all of the tents. The camp is built on the edge of a watery, reed-covered area and many species of animals must move through the area. Raising the camp allows the smaller animals to move freely, and I suppose allows for the level of the water to rise as well. Part of our safety orientation cautioned us that at intervals the walkways lower to ground level so that larger animals may pass. We were instructed to look both ways before crossing such areas, and to step back on the raised walkway if we saw animals in the area. On the first morning we were sleepily walking to the dining room, we approached one of these crosswalks for the animals. As I looked to my left I spotted a very tall elephant. It seemed as surprised to see me as I was to see him and he immediately let us know he was not very happy with our presence. He shook his head, flared his ears and gave a snort, clearly warning us to step back onto the raised walkway. We did so immediately and he ambled on his way. Wow, what an experience! I had a similar experience the prior afternoon after lunch. We usually had a couple of hours of free time after lunch when we downloaded pictures, took showers and relaxed. Suddenly I heard this big exhale and looked up. An elephant was standing just on the other side of the walkway to our tent, not 5 feet away. As I looked up, the elephant spotted me as well. Then I reached for my phone to take his picture and he moved away, startled by my movement. I will never forget looking that elephant in the eye, both of us startled by the other, but locking our gaze for just a few moments. The cost of the trip was instantly worth every dollar we paid. Morning game drives were colder than chilly. We all bundled up, it was still very cold. Animal sightings in the mornings were scant, they must have been tucked away in hidden, warmer, sunny locations. We did see some new animals and many new birds in two days of game drives. Once again we saw sausage trees which in the Okavango Delta region are used to make the dugout canoe called a mokoro. These narrow, shallow boats glide through the Delta waterways by standing at the back of the boat and pushing with a very long pole. We took a short ride thorough a waterway in a mokoro and it was so peaceful to silently glide among the reeds and water lilies. Because trees large enough to make a mokoro are endangered in the area, they are mostly made from fiberglass today. Along with the distinctive smells of sage, the soil is very sandy. The drivers and the vehicles had to work very hard in some areas to prevent our getting stuck in the deep sand. Our final game drive in the Okavango Delta was a blast. Pete and I and our friends Leslie and Kathy were the only four in our safari vehicle. After our

sundowners enjoying the setting sun, we headed back to camp. We had a wild ride, through very sandy soil and it was a hoot. I felt as if I was riding a rodeo bronc. I was alternately laughing out loud and taking pictures. My memories of time we spent in the Okavango Delta will always revolve around my elephant encounters, the smell of the sage, our mokoro ride and that spectacular sunset rodeo! A slideshow of our time in the Okavango Delta follows. We hope you enjoy it.

Chapter 4 : Okavango in Botswana

The Okavango Delta (or Okavango Grassland) (formerly spelled "Okovango" or "Okovanggo") in Botswana is a very large, swampy inland delta formed where the Okavango River reaches a tectonic trough in the central part of the endorheic basin of the Kalahari.

The area includes permanent swamps which cover approximately 1,000,000 ha along with up to 1. The inscribed World Heritage property encompasses an area of 2,000,000 ha with a buffer zone of 2,000,000 ha. The Okavango Delta is one of a very few large inland delta systems without an outlet to the sea, known as an endorheic delta, its waters drain instead into the desert sands of the Kalahari Basin. Furthermore it is in a near pristine state being a largely untransformed wetland system. The biota has uniquely adapted their growth and reproductive behaviour, particularly the flooded grassland biota, to be timed with the arrival of floodwater in the dry, winter season of Botswana. The Okavango River, at 1,600 kms, is the third largest in southern Africa. Subsurface precipitation of calcite and amorphous silica is an important process in creating islands and habitat gradients that support diverse terrestrial and aquatic biota within a wide range of ecological niches. Permanent crystal clear waters and dissolved nutrients transform the otherwise dry Kalahari Desert habitat into a scenic landscape of exceptional and rare beauty, and sustain an ecosystem of remarkable habitat and species diversity, thereby maintaining its ecological resilience and amazing natural phenomena. The Okavango Delta World Heritage property displays an extraordinary juxtaposition of a vibrant wetland in an arid landscape and the miraculous transformation of huge sandy, dry and brown depressions by winter season floods triggers spectacular wildlife displays: The Okavango Delta World Heritage property is an outstanding example of the complexity, inter-dependence and interplay of climatic, geo-morphological, hydrological, and biological processes. The continuous transformation of geomorphic features such as islands, channels, river banks, flood plains, oxbow lakes and lagoons in turn influences the abiotic and biotic dynamics of the Delta including dryland grasslands and woodland habitats. The property exemplifies a number of ecological processes related to flood inundation, channelization, nutrient cycling and the associated biological processes of breeding, growth, migration, colonization and plant succession. These ecological processes provide a scientific benchmark to compare similar and human-impacted systems elsewhere and give insight into the long-term evolution of such wetland systems. The natural habitats of the nominated area are diverse and include permanent and seasonal rivers and lagoons, permanent swamps, seasonal and occasionally flooded grasslands, riparian forest, dry deciduous woodlands, and island communities. Each of these habitats has a distinct species composition comprising all the major classes of aquatic organisms, reptiles, birds and mammals. Thirty-three species of water birds occur in the Okavango Delta in numbers that exceed 100. Integrity The property covers most of the Delta, encompassing a vast area of over 2 millions ha of substantially undisturbed wetlands and seasonally flooded grasslands. Because of its vast size and difficult access the delta has never been subject to significant development and it remains in an almost pristine condition. Tourism to the inner Delta is limited to small, temporary tented camps with access by air. Facilities are carefully monitored for compliance with environmental standards and have minimal ecological impact. It is imperative that upstream environmental water flows remain unimpeded and that over abstraction of water, the building of dams and the development of agricultural irrigation systems do not impact on the sensitive hydrology of the property. Concerns have been noted regarding fluctuating populations of large animals. Elephant numbers have been increasing whilst other species are reported as exhibiting significant declines. Authorities have initiated efforts to establish a comprehensive and integrated wildlife monitoring system that can accurately track population size and trends for the entire property, however ongoing work is needed to realise this. Causes of decline are attributed to seasonal variability, poaching for example of giraffe for meat and veterinary cordon fencing used to manage animal sanitation and control the spread of disease between wildlife and domestic stock. Mining activities including prospecting will not be permitted within the property. Furthermore, potential impacts from mining including concessions in the buffer zone and outside the buffer zone need to be carefully monitored and managed to avoid direct and indirect impacts to the property, including water pollution. The State Party should

also work with State Parties upstream from the Delta to monitor any potential impacts, including from potential diamond mining in Angola, which could impact water flow or water quality in the Delta. Protection and management requirements The Okavango Delta comprises a mosaic of protected lands. The Tribal Land Act of also applies to the property and the whole of the nominated area and the buffer zone is communally-owned Tribal Land under the control of the Tawana Land Board. As noted above the underlying causes of wildlife population declines are not clear, but an imposed hunting ban will further strengthen conservation measures in the property. The State Party is encouraged to develop a coordinated and systematic wildlife monitoring programme to establish population baselines for key species and to track trends. Veterinary cordon fences are known to cause significant disruption to wildlife at individual, population and species levels. However, the Southern Buffalo Fence defines the southern boundary of the World Heritage property and whilst damage has compromised its effectiveness in disease control, it acts as a locally known demarcation to stop cattle grazing within the property. Veterinary fencing is recognised as a sensitive, multi-dimensional issue. The State Party is encouraged to continue efforts to rationalize fencing, removing it when its effectiveness for disease control has become questionable or where more holistic approaches to animal sanitation and disease control are possible. Ongoing vigilance is critical to ensure mining developments do not adversely impact the property. Past mining prospecting licences have been extinguished, and will not be renewed or extended. No extractive activity is undertaken in the property, and no new licenses will be issued within the property. The State Party should implement rigorous environmental impact assessment procedures for mining activities outside the property but which have the potential to negatively impact on its Outstanding Universal Value, to avoid such impacts. The Delta has been inhabited for centuries by small numbers of indigenous people, living a hunter-gatherer existence with different groups adapting their cultural identity and lifestyle to the exploitation of particular resources e. This form of low-level subsistence use has had no significant impact on the ecological integrity of the area, and today mixed settlements of indigenous peoples and later immigrants to the area are located around the fringes of the delta, mostly outside the boundaries of the property. Continued special attention is needed to reinforce the recognition of the cultural heritage of indigenous inhabitants of the Delta region. Efforts should centre on ensuring that indigenous peoples living in the property are included in all communication about the World Heritage status of the property and its implications, that their views are respected and integrated into management planning and implementation, and that they have access to benefits stemming from tourism. The State Party is encouraged to address a range of other protection and management issues to improve integrity. These include enhanced governance mechanisms to empower stakeholders in the management of the property; the development of a property specific management plan which harmonizes with planning in the wider landscape; ensuring adequate staffing and funding to build the capacity of the Department of Wildlife and National Parks; and programmes to strengthen the control and elimination of invasive alien species from the property.

Chapter 5 : Wildlife - Okavango Delta

Veronica Roodt wrote two books: "Common Wild Flowers of the Okavango Delta," and, "Trees and Shrubs of the Okavango Delta." These are the bibles.

Geography[edit] Left: The Kalahari Desert with shrubland vegetation of trees. Apart from scattered hills and valleys, the dunes system of the southern part contains pans that fill with water during the rains, sustaining the wildlife with its nutrients and grasses. Initially established as a reserve area in became the first gazetted national park in Chobe River valley forms the northeast part of the park and has thick forests and lush green plains. The marshland of Savuti forms the western zone. The hinterland is hemmed between the marshland of Savuti on the west and the Linyanti Swamps on its northwest. San people or the Basarwa were the original inhabitants of this land who were hunter gatherers. The body size of the elephants here is the largest. However, their ivory is brittle and their tusks are generally short. Some of the other faunal species seen here are sable, wildebeest, kudu, buffalo and waterbuck, apart from lion, hyena, jackal, bat-eared fox , cheetah and wild dogs. Two ecological zones of savannahs and grasslands of Africa in semi-arid environment, with least anthropological pressure, are represented here by ungulates and large carnivores mammals. The rich faunal and floral diversity has involved several research projects. They have complementarity in wild life migrations, which necessitated merging the two parks into a single entity. It is sparsely populated due to poor water sources and wild life in the mineralised pan system within Khutse has been their major source of sustenance. The wild life of herbivore thrived on grass growing in the pans which in turn has attracted predators. It has wooded mopane forests in the south and east. The indigenous people residing here since ancient times are known as bushmen or the Basarwa or San. Its fame is also due to its Deception Valley where the study of brown hyena *Parahyaena brunnea* has been carried out. Deception was the name given to the salt pans of the valley, which gave deceptive sight mirage of a water body from a distance. Tree Island used to be the main camping ground here. Cry of the Kalahari , a famous book made this a popular place. Wild animals such as giraffe , brown hyena , warthog, wild dog, cheetah , leopard , lion , blue wildebeest, eland , gemsbok , kudu , red hartebeest and springbok are seen in the pans and valleys, particularly during the period from December to April. The woody plants are; *Acacia karroo* , *Albizia anthelmintica* , *Balanites aegyptiaca* , *Mopane Colophospermum mopane* , *Combretum apiculatum* , *Grewia bicolor* , *Grewia flavecens*, *Grewia monticola*, *Lonchocarpus capassa* and *Terminalia*. Woody plants recorded are the *Grewia avellana* , *Grewia retinervis*, *Lonchocarpus nelsii* and *Terminalia sericia*. The woody plants are the *Fecus verruculosa* and the *Hyphaene crinata*. The grasses reported are the *Phragmites communis* , *Dichanthium papillusum*, *Panicum repens* , *Andropogon encomus*, *Echinochloa pyramidelis* and *Imperata cylindrica*. The trees tend to grow in areas with a plentiful supply of water, such as in the Okavango Delta swamps. The baobab tree, known as mowana in the Setswana language are some of the long living trees in Botswana and may grow older than years. Green fruits of the marula. The marula or morula tree, belonging to the mango family *Anacardiaceae* , grows to an average of 15 meters and up to 20 meters in the Okavango Delta in bushveld and woodland, [3] and has a greyish bark and is deciduous. The leaves typically grow to about 3â€”4 metres 9. Male florets of the tree are pale dirty-yellow and caduceus and male florets are smaller, globose and have a greener bluer coloring. A Sausage tree of the genus *Kigelia*. The fruit which the tree bears is oval and of a pinky-orange color, about 2. It exhibits a yellowish-brown drupe, subglobose edible fruit, up to 35 millimetres 1.

Chapter 6 : Animals Plants Rainforest: Okavango Delta Swamp in Botswana

Purple-pod Terminalia is a common tree in the drier areas of the southern Okavango and grows into an impressive tree. For much of the year it carries the purple coloured pods that gives the plant its name and make identification fairly easy.

Botswana has the largest population of elephants on earth - estimated more than Cape Buffalo One of the "Big Five". Large herds of these magnificent beasts can still be seen in the Okavango area and in the Chobe National Park. Lion One of the "Big Five". There is a healthy population of lions in the Okavango region. It is one of the main safari attractions. There is a good chance to see these cats in the natural habitat of the Okavango Delta. At night you will hear them roaring - an incredible night sound of African wilderness. Leopard One of the "Big Five". They are still quite common in the Okavango, although not always easy to see. A good and experienced guide will try to find these cats and show them to you. Cheetah A rare sight, but if you are lucky you may see these fastest land animals. Giraffe One of the most popular and iconic creatures. Many are living in the Okavango and you will see some of them for sure. Impala One of the most numerous antelopes in the Okavango. You will see many of them all over the place. Red Lechwe Typical Okavango Delta resident. This antelope is always near water or in water. You cannot miss them on your safari trip. Kudu One of the majestic antelopes. One of the most common and resilient species all over the country. Wildebeest Great wanderers in search for food and water. Groups of these antelopes will be seen on the way, often together with zebras and other animals. Sable One of the most beautiful and graceful antelopes. Rarely seen but sometimes they will cross your way in the Okavango. Bushbuck A shy and shade loving antelope. Reedbok Not very common but often seen in the Okavango Delta. Steenbok A small antelope often seen along the bush roads. Tsessebe The fastest antelope in Africa. In East Africa it is called Topi. Zebra Great nomads and residents of the Okavango Delta. Sometimes they leave the delta and travel hundreds of kilometers to the Makgadikgadi Salt Pans. Baboon Big trouble makers at the campsites. Never ever feed them. They can be very aggressive and dangerous, especially the big males with huge teeth. Great animals to watch. Vervet Monkey Safari entertainers, sometimes troublesome when they get to familiar with people. Professional thieves - keep the windows of your car closed when you leave your vehicle, otherwise they will go in and take what they find. The same applies to baboons. Okavango Delta habitats create home for many interesting animals. Most of them you will encounter on your safari trip. Some people will see almost all of them, some fewer - but this should not be the main purpose of your safari. Enjoy the whole, bigger picture of this unique ecosystem. Below are some of the prominent game species of the Delta. Your safari guide will try to find as many of them as possible. Waterbuck Very common antelope, always close to water. Jackal They often follow other predators, but they can hunt as well. Hyaena Often seen and heard during the night. One of the camp trouble makers, trying to steal your food and equipment during the night. Always sleep in a zipped tent. Makes one of the most evocative night sounds of African bush. Hippo The most dangerous animal of Africa, killing more people than all other animals together. Never leave the vehicle near water, where those animals live. Warthog Many are living in Okavango Delta, often seen running from your vehicle. Wild Dog Rare, endangered animal. Very efficient hunter and killer. Very social, always in packs. Tortoise Sometimes seen crossing the bush-track. A healthy population of several species lives in the Okavango Delta. Puff Adder Very dangerous snake, but attack only if disturbed. Probably the fastest strike of any snakes, potent cytotoxic venom. There are several dangerous snakes in Okavango Delta but they are rarely seen. Bites are extremely rare. The bush wisdom says: Monitor Lizard Big African lizard, often seen near water. Crocodile Dangerous reptile, many crocs are living in the Okavango waters, but sometimes difficult to see. In some places can be seen regularly. Never be tempted to swim in the Okavango Delta.

Chapter 7 : Trees & shrubs of the Okavango Delta: medicinal uses and nutritional value.

trees, plants and flowers There's a strong correlation between the natural division of the vegetation in Botswana and the pattern of rainfall. Savannahs make up most part of the country's landscape and while you may think the Kalahari Desert is a barren, dry area, it is actually a grassy landscape with the occasional acacia tree and lower.

The uniquely shaped fruits of the Sausage Tree give it its name. It also gives these lions a nice place to rest! Botswana is located in southern Africa, to the north of the nation of South Africa. It has a total area of approximately , square miles and is largely covered by the Kalahari Desert. This country also has several rivers running through it, creating delta and river basin habitats. Other significant ecological regions include grasslands and savannas. The environment in Botswana is threatened by desertification and drought. These threats are caused by climate change and human activity such as overgrazing which affect plant life throughout the country. This article takes a look at some of the native plants of Botswana.

Sausage Tree The sausage tree grows throughout tropical Africa. It can reach heights of approximately 65 feet and produces a 2-foot long, pound fruit that resembles a sausage, thus giving it the name. The outer bark on the trunk and branches is grey and smooth when young. The leaves are 7 to 8 inches long and oval-shaped. Its fruit and leaves provide food to a wide range of animals. Additionally, the fruit is believed to cure snake bites, rheumatism, and syphilis in traditional medicine. Because of its important to local customs, it is not common to cut down this tree species.

Sycamore Fig The Sycamore fig, or fig-mulberry, has been important to humans for centuries. Its typical habitat is along rivers and in mixed forests throughout Africa, south of the Sahel. Reaching heights of 65 feet, the branches spread out across a wide area and create an umbrella-like appearance. The fruit, fig, is edible and has been cultivated since the time of the ancient Egyptian culture. This tree species has a symbiotic relationship with a wasp insect in order to reproduce. Without the wasp, the Sycamore fig would not be able to survive.

Sweet Thorn The sweet thorn tree is a species of acacia that is found throughout southern Africa. This species is a relatively small to medium-sized tree that grows to approximately 39 feet tall, depending on water availability. At the beginning of summer, yellow flowers bloom among its long, white thorns. This tree is used for firewood, food for domestic and wild animals, and traditional medicine. In traditional medicine, the bark and leaves are used to treat colds and hemorrhaging. This tree species is not considered threatened due to its wide distribution.

Wool Grass Wool grass, also known as bush grass, grows throughout tropical and southern Africa. This grass does not grow in separate blades over a wide area, but rather in clumps and tuft-like shapes. The grass in these clumps can grow between 1 and 5 feet in height. It prefers sandy soil where at least 9. Domestic and wild animals rely on wool grass as a food source. Although commonly occurring, overgrazing may be a threat for this grass species.

Blady Grass Blady grass, also known as Japanese bloodgrass, is native to several parts of the world, including Botswana, eastern and southern Africa, Australia , and India. It grows to between 2 and 10 feet tall, and each blade is approximately three-quarters of an inch at its base before tapering at its end. This grass species is very important to erosion prevention. Additionally, local people use it to build roofs on their homes or even weave it into mats. This plant can easily adapt to many habitats, so much so that it is considered an invasive species in some places. In the United States , particularly in the southeast, the government has implemented eradication programs and has prohibited its reproduction.

Other Notable Botswanan Plants Other native plants of Botswana include the giraffe thorn, real fan palm, Lowveld mangosteen, Mowana baobab, and medlar. Their scientific names can be found in the list below.

Chapter 8 : Okavango Delta - UNESCO World Heritage Centre

Each year the Okavango River discharges approximately 11 cubic kilometres ($\sim 10^{13}$ litres) of water into the Okavango Delta. Most of this water is lost to transpiration by plants (60%) and by evaporation (36%) with only 2% percolating into the aquifer system with the remainder finally flowing into Lake Ngami.

The Okavango is, without any doubt, the most widely known area in Botswana. The Delta is an area of tranquil, lily covered lagoons and narrow channels hemmed in by papyrus Reeds, and teeming with animal and bird life. Probably the most precious wetland in the world, The Okavango is a river delta that feeds into dry land instead of the sea. It is the only one of its kind. The Okavango Delta is a unique oasis at the northern edge of the sands of the Kalahari Desert. Flood rainwaters from the Angolan highlands are carried by the Okavango River into the delta where it spreads out creating countless waterways and lagoons over an area of approximately 10 square km. Papyrus and Phoenix palms flourish here on the edge of the desert, and the waters provide an ecosystem for Fish Eagles and Kingfishers, Hippopotami, Crocodiles and Tiger fish. During the peak of the flooding, the deltas area can expand to over 16, square km, shrinking to less than 9, square km in the low period. As the water travels through the delta, the wildlife starts to move back into the region. The areas surrounding the delta are beginning to dry out the rains in Botswana occur approximately the same time as in Angola and the wildlife starts to congregate on the edge of the newly flooded areas, May through October. The best time to visit this beautiful area is from May through to October, when the Okavango River floods the delta. December to February is the wet season and is not recommended. Birding and vegetation is wonderful to experience during the rainy season Nov - April as the migrant bird populations are returning and the plants are flowering and green. The Delta offers unparalleled opportunities for bird watching, game viewing, fishing, photography, night drives and walking safaris. Millions of years ago the Okavango River use to flow into a large inland lake called Lake Makgadikgadi now Makgadikgadi Pans. Tectonic activity and faulting interrupted the flow of the river causing it to backup and form what is now the Okavango delta. This has created a unique system of waterways that now supports a vast array of animal and plant life that would have otherwise been a dry Kalahari savanna. The deltas floods are fed from the Angolan rains, which start in October and finish sometime in April. The floods only cross the border between Botswana and Namibia in December and will only reach the bottom end of the delta Maun sometime in July, taking almost nine months from the source to the bottom. This slow meandering pace of the flood is due to the lack of drop in elevation, which drops a little more than 60m over a distance of km. The deltas water deadends in the Kalahari, via the Botetle River, with over 95 per cent of the water eventually evaporating. The Okavango can be divided into three main habitats: The Main River The Permanent Waters The Dry lands The 3 habitats provide a variety of accommodation options, which range from the most primitive safari camps, to luxury lodges and camps. Excellent game views can be enjoyed over the river, of Elephant, Lion, Leopard, and Buffalo herds. Generally it is possible to do this from the sun deck of your riverside lodge. At night, the air is alive with the sound of millions of Frogs - a glorious cacophony, a magnificent symphony to lull the traveler to sleep. In the distance the roar of Lion or nervous giggle of Hyena pierce the senses and the soul. This is Africa at her untamed best. While most of the young animal and bird species are born between November and March when the vegetation is lush. The routes follow ancient animal migration trails with a potential surprise around each bend, turning the safari into a truly life-altering experience. Access to the heart of the delta is by air, usually from Maun only, making it an exclusive destination, thus it is relatively unpopulated and wild.

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This excerpt gives an idea of the style of plant description in the guide Wild flowers, waterplants and grasses of the Okavango Delta and Kalahari written by Veronica Roodt. Veronica Roodt The role of Miscanthus in the formation of islands in the Okavango Delta The waters of the Okavango bring with them a load of detritus and soil particles, which are deposited once the water slows down. It settles on an already decaying layer of vegetation, forming the ideal substrate for the establishment of rooted waterplants such as Waterlilies *Nymphaea caerulea*. In the warm summer months micro-organisms become active in this mat of detritus on the floor of the Delta, breaking down the fibrous plant material and causing the production of methane gasses. The process is as follows: Dead plant material containing cellulose is reduced to glucose during the fermentation process and the fermentation of glucose produces carbondioxide. Certain anaerobic bacteria such as *Clostridium* have the function of reducing carbon dioxide to methane. Evidence of the gases trapped in the detritus can be seen by the thousands of bubbles that rise to the surface when the water is disturbed. The floating peat mats provide a perfect habitat for the establishment of aquatic plants such as bladderworts and sedges. Micro-organism action is inhibited in winter, resulting in a decrease in gas production, causing the mat to sink. Eventually the mat becomes stabilised with vegetation and remains on the surface. One of the first grass species to establish itself is Pampas grass *Miscanthus junceus*. Several peat mats join together to form large stands which often block the water flow and gradually start to dry out to form dry land. This process may be hastened by smouldering underground fires, which are fed by highly combustible methane gasses. Lucky bean or Love bean Setswana: It occurs in marginal woodland in the Okavango Delta and Chobe where it climbs in trees and large shrubs. A Khwai elder in the Okavango Delta told me that this plant, mixed with a variety of other plants, is a very effective abortifacient. The effect is irritation of the uterus wall, resulting in severe contraction and bleeding, which could cause the foetus to be discarded. The correct dosage is extremely important, since an overdose will almost certainly cause the patient to die. Cell death is caused by enzymes present in the toxal-bumin, abrin, which is present in this plant. Various studies have shown that abrin has therapeutic and inhibitory effects in a variety of cancers in rodents. It was found that these enzymes are more toxic to tumour cells than to normal cells. The sweetening agent in the roots and leaves was thought by many authors to be glycyrrhizin, but Choi et al isolated, among other things, four abrusosides as the actual sweetening agents. Tests are currently underway to use the purified abrusosides from the leaves as commercial sweeteners, especially since they lack the toxicity known in glycyrrhizin. The roots and leaves are very sweet-tasting and have been used since the last century as liquorice substitutes. It is of interest to note that the root and leaves can be ingested without ill effect, yet the red seeds are highly poisonous. The seed contains an extremely virulent toxalbumin protein toxin called abrin, as well as a poisonous acid called abric acid. Snake venom, like abrin, is also a protein toxin and therefore this poison acts partially in the same way as snake venom. Abrin causes red blood cells to agglutinate and this may lead to haemolysis rupturing of red blood cells. When red blood cells are ruptured, haemoglobin - which is the oxygen-carrying protein - is lost. Furthermore, enzymes in abrin inhibit protein synthesis and cause cell death. The first symptoms to appear are enlargement of the lymphatic glands, loss of appetite, vomiting and diarrhoea. The two latter symptoms are caused by the irritant effect of the toxalbumin on the mucous membranes of smooth muscle, in this case the digestive tract. A similar effect on the smooth muscle of the uterus causes abortion see above. This is an example of plant description in the guide: Wild flowers, waterplants and grasses of the Okavango Delta and Kalahari Author: