

A study of Mare aux Songes in Mauritius: the site of the first discovery of Dodo bones in 1865

By Alan Grihault

Author of the “dodo bird behind the legend”

<http://www.dodosite.com/>

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Rationale for the Study

George Clark found the first physical evidence that the Dodo had really existed in Mauritius in 1865. This marsh, called Mare aux Songes, locally called Mare aux Dodos, is situated on the Mon Trésor Sugar Estate in the south-east part of Mauritius. After many years of neglect, some effort has been made by the Estate to tidy up the area, but there is little to attract visitors to this important historical site. Even as this Research Paper is being written, the surrounding area is being violently changed, as giant earth movers are breaking down hills, levelling the ground, and transporting away broken rocks by the lorry load. Although the marsh itself is being kept intact, one must hope that this onslaught will not affect the tranquillity of the marsh.

Perhaps this short study, 140 years after George Clark searched and found Dodo bones in the mud of Mare aux Songes, will help to identify the importance of the site as a National Conservation area where Mauritians and tourists may find the ultimate *Dodo Experience*.

Mauritius

The *terra firma* of Mauritius was thrust out of the sea nearly eight million years ago:

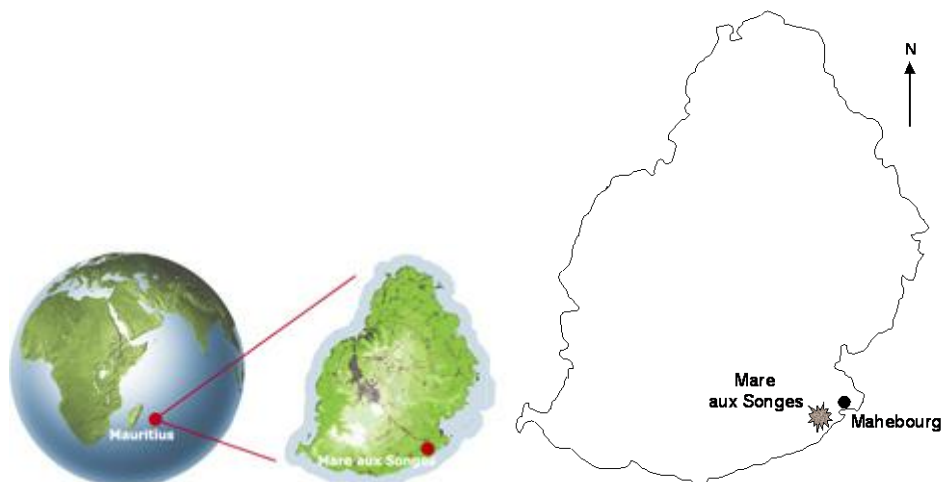
“The huge primary shield-volcano that covered Plaines Wilhems [a large area of central Mauritius] collapsed, and its ruins were submitted to erosion for thousands of years. Later secondary eruptions sent lava-flows rolling south to meet the sea from Baie du Cap to Mahébourg.” (Staub, 1993)

After several million years of weathering the volcanic rock became a fertile place for vegetation to take seed and grow:

“During the Dutch and French occupations the land was covered with an unbroken evergreen forest, extending from near the sea-shore up to the summit of the mountains...” (Koenig, 1912)

Mare aux Songes

This volcanic action, together with erosion and decomposition, left the island of Mauritius with a rugged landscape of mountains, deep ravines, cliffs and rushing rivers, tempered with rolling hills and lazy beaches. Hidden amongst all this, only a short distance from the sea, is a small, insignificant marsh called Mare aux Songes. For thousands of years it acted as a natural shade, and watering area for birds, before man arrived on the island in the 16th century.



Map 1: Mauritius showing position of Mare aux Songes

Today, Mare aux Songes is part of the Mon Trésor Sugar Estate and looks very different from when Dodos drank from its still waters, and since its malarial waters were filled by rocks by the British Army in the early 1940s. A hundred and forty years ago, George Clark gave us a description which perhaps captures the marsh as it used to be:

“The Mare aux Songes comprises of an area of four or five acres. It is about a quarter of a mile [sic] from the sea, from which it is separated by low sand hills and basaltic rocks. It is originally a ravine, the bottom of which consisted, like that of most ravines in this country, of masses of basalt varying in weight from a few pounds to several tons. It receives the drainage of about two hundred acres, inclining towards it by a gentle slope. In the course of ages the interstices between these masses of basalt have been filled up by alluvium. A luxuriant growth of fern, sedge, and flags have spread from the borders over the deeper parts of the marsh, forming a mass sufficiently compact to allow of a person’s walking across it. This covering, by preserving anything beneath it from the action of the atmosphere, is probably a principle cause of the perfect state of preservation in which the bones under it were found.”

The Mare aux Songes and the lands around it were covered with thick forests at the beginning of the present century; now not a tree remains. From its sheltered position and the perennial springs which flow in it, it must have afforded a suitable resort for birds of all kinds, and was probably a favourite abode of Dodos and marsh birds.”

The marsh can be found less than a kilometre from a small creek at Blue Bay, which can be entered by boat near the present Shandrani Hotel. This creek used to reach further inland towards Mare aux Songes, but in recent times a road has formed a dam preventing tidal water from reaching as far inland as it did in the past.

Tradition has it that pirates used to row up the creeks off Cul du Chaland (Blue Bay) and hide their treasures in caves and rocks further inland (Grihault, 2002):



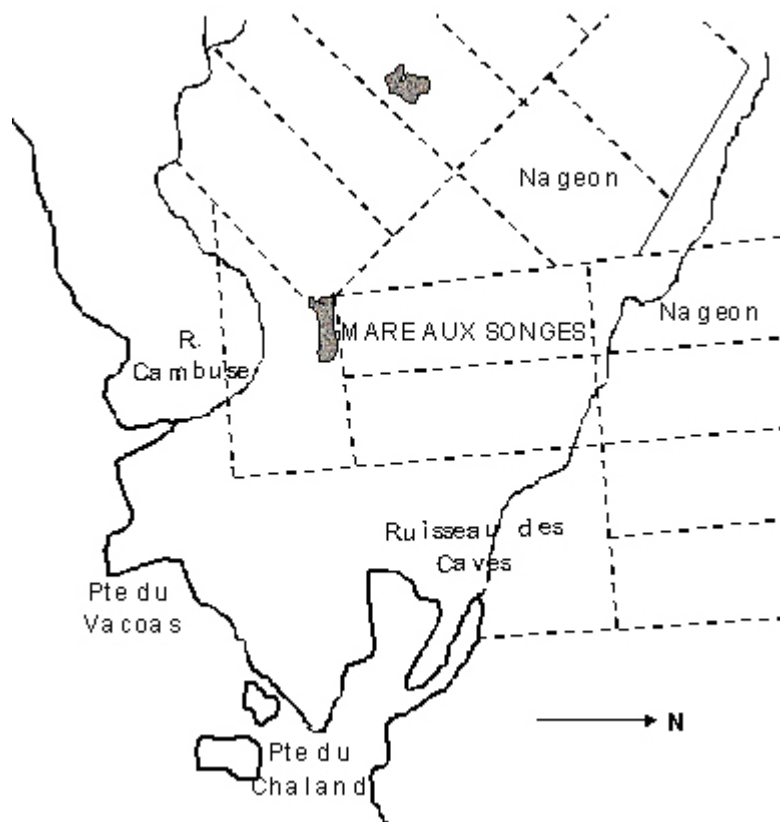
Map 2: Reproduction of part of a Treasure map - Pointe des Vacoas (1781)

Early Sugar Estate maps describe Mare aux Songes, and the forests around it, as *Fallow Land*, so it was always marked on early maps. It was also mentioned in stories telling of how pirates made their way along the creek, and hid their treasure near the swamp, where it would have been well protected from prying eyes.

A Naval Officer, and probable pirate, Bernardin Nagéon de L'Estang (nicknamed *Butin*), inherited several treasure maps and treasures while serving at sea during the 1700s. He also acquired about 45 acres of land situated near Ruisseau des Caves, near Mahébourg, [see Map 3], and it was here where he was thought to have finally buried his treasure. In order to safeguard the precise instructions to finding the treasure, Nageon wrote separately to three trusted members of his family. In one letter he wrote:

"I am leaving to enrol and defend my country. In the event of me being killed, I am writing my will, and giving it to my nephew, Jean-Marie Nageon de L'Estang, Officer of the Reserve, the following -

Half a plot of land at Rivière La Chaux at Grand-Port, Île de France, and the following treasures rescued by the Hindus: I capsized in a creek near Point Vacoas, and I went up a river, and left in a cave all the treasures saved by the Hindus, and they are marked B.N. which is my name."



Map 3: Reproduced map (Grihault, 2002) showing land belonging to the Nageon family in the 1700s

Nageon died in 1775, but no one knows whether the treasure was found, although hunters have searched the area surrounding Mare aux Songes and near the airport.

The Dodo and Mauritius

During the time when pirates were active in Mauritius, the Dodo was forgotten and was almost wiped out of the human memory. In 1778, Mr. Morel, Secretary of the Port Louis Hospital, made an inquiry amongst the oldest inhabitants of Mauritius, and none of them had any knowledge of the existence of the Dodo. By 1816, at a banquet given by the Governor Robert Farquhar, nineteen guests, who were in their seventies, had never heard of it.

Luckily, not everyone had forgotten about the Dodo, because in 1828, J. S. Duncan, an Oxford zoologist, examined all the available accounts about the Dodo, and wrote a paper for the *Zoological Journal* called *A summary review of the authorities on which naturalists are justified in believing that the Dodo, *Raphus cucullatus* (*Didus ineptus*), was a bird existing in the Isle de France, or the neighbouring islands, until a recent period.* The paper proved that there really had been a Dodo and it aroused some interest in Mauritius, which by this time had become a British possession. Three educated men formed the *Society of Natural History* and went looking for Dodo bones.

One member of the *Society* went to Rodrigues in 1831, and found twelve unusual bones whilst digging in some caves there. These bones were sent to the Andersonian Museum of Glasgow, and to the Zoological Society of London, and one was given to an ornithologist called Hugh Strickland, who placed it in the Cambridge Museum. After studying the bones, they were found to belong to the extinct *Pezophaps solitarius* (Solitary Walking Pigeon or Solitaire).

Later, in 1848, Strickland and Melville published their great book, *The Dodo and its Kindred*. It was written on the skeletal evidence of one head (Oxford), one part of a skull (Copenhagen), and two legs (London and Oxford), and the visual evidence of paintings and pictures in some museums and archives.

By 1864, Edward Newton, a Colonial Secretary in Mauritius, and brother to Alfred, the zoologist, had found a few more Solitaire bones in Rodrigues, which encouraged more exploration, and many more specimens of the same bird were found.

George Clark

Another member of the *Society of Natural History* was George Clark who, according to Pitot (1912) was “a man of quiet manners, occupying an inferior situation, but thoroughly versed in natural sciences, read Strickland’s book with interest, and made several inquiries in Mauritius concerning the Dodo, without meeting with the slightest success.”

Fortunately, Clark never quite gave up his search for the illusive Dodo bones and he explained that “*I have been nearly thirty years [sic] a resident in Mauritius; and the study of natural history having been a favourite recreation of my life, the hope of finding some remains of the unique and extinct bird that once inhabited this island led me to make many inquiries and researches, alike fruitless. After many years of expectation, I had given up my efforts in despair, when, some four or five years ago, the late Dr. P. Ayres visited Mahébourg, the place of my residence...on this occasion [we] visited together the site of the old Dutch and French settlements on the coast opposite Mahébourg. Dr. Ayres suggested to me the probability of finding some remains of the Dodo by digging around the ruins of these habitations; but I did not conceive that the plan offered any chance of success.*”

He had already been puzzled as to why no bones had been found by members of the Society during their constant searches throughout the island. He thought that perhaps the reason lay in the fact that much of the land was either covered by volcanic lava or thick clay, which was not conducive to the laying down of deposits such as bones. The heavy rains would strike this hard surface and wash everything away into rivers before they had time to be buried.

Clark again reasoned that the site he was now looking at with Dr. Ayres, which was at the bottom of La Montagne du Grand Port, was not a likely place to reveal any bones, because they would be washed into the sea during the rainy season. He proposed that the only possible place for success would be in the alluvial deposits found in marshes, and as he was teaching at the Mahébourg Government School, he naturally focussed his attention to the south-east part of the island. He noticed that there were three rivers running into the sea, forming a rather muddy and marshy delta near what is now Sir Seewoosagur Ramgoolam International Airport at Plaisance. He assumed that if any bones had been washed away by these rivers, they would finally be deposited in the mud of the delta...

“My attention having thus been drawn to the subject, I passed in review the various localities in my neighbourhood which might offer the most favourable conditions to encourage research. A marsh about three miles from Mahébourg struck me as a promising spot, and I mentioned it as such to several of my friends; but my time being very full occupied, and my means restricted, I took no steps to verify my suppositions, promising myself, however, to do so at some future period.”

The new railway and Harry Higginson

Although lack of time and money held George Clark back from testing this particular theory, he turned his search in another direction. By the early 1860s, railway lines were being constructed in Mauritius, and Clark hoped that the various excavations may result in the disclosure of Dodo bones. The mainline railway which was being constructed near to Clark’s home was the Midland line which started in Port Louis and went through Curepipe and stations such as Cluny, Rose Belle, Mare d’Albert, Union Vale and finally Mahébourg. The six mile length of line from Union Vale to Mahébourg passed through the Plaisance Sugar Estate and within a 100 metres of Mare aux Songes, and it was this fact that played an important part in the discovery of Dodo bones.

Although the searches along railway lines resulted in failure, Clark happened to meet a young civil engineer by the name of Harry Higginson, who arrived in Mauritius in 1862 to work on the railway project. This meeting was to be an important one because sometime later, Higginson was inspecting the railway line that passed near to Mare aux Songes. As chance would have it, in the September of 1865, Gaston de Bissy, co-proprietor and manager of the Plaisance Estate, had the idea of using organic mud from Mare aux Songes to fertilise his fields, and had instructed some of his men to dig out the mud. Higginson recorded this event in his Journal:

“Shortly before the completion of the railway [19th October 1865] I was walking along the embankment one morning when I noticed some coolies removing some peat soil from a small morass. They were separating and placing into heaps a number of bones and various sorts among the debris. I stopped and examined them as they appeared to belong to birds and reptiles, and we had always been on the lookout for bones of the then-mythical Dodo. So I filled my pocket with the most promising ones for further examination.

A Mr Clarke, the Government schoolmaster of Mahébourg, had Professor Owen’s book on the Dodo so I took the bones to him for comparison with the book plates. The result showed that many of the bones undoubtedly belonged to the Dodo. This was so important a discovery that Clarke obtained leave to go out to the morass and personally superintend the search for more.”

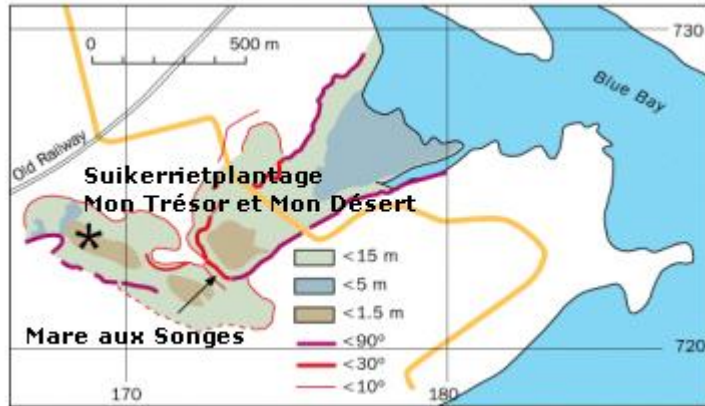
As Professor Owen’s book was not published until August 1866, it seems that Higginson and Clark compared the bones to pictures in Strickland’s book which had been published earlier. Strangely, Clark does not mention Higginson in his own journal, and he credits his school pupils for alerting him to the discovery of the bones, when he took leave from work and personally supervised the search for more material.

The final search for Dodo bones

“I repaired to this spot, called ‘La Mare aux Songes’, and mentioned to Mr. De Bissy, proprietor of the Plaisance Estate, of which this marsh forms part, my hope that, as the bones of one extinct member of the fauna of Mauritius had been found there, those of another, and a much more interesting one, might also turn up. He was much pleased with the suggestion, and authorized me to take anything I might find there, and to give orders to his workmen to put aside for me any bones they found. They were then employed in digging up a sort of peat on the margin of this marsh, to be used as manure...

In September last, some of my scholars, who well know the interest I take in natural history, informed me that a number of Tortoise bones had been turned up in a marsh much as the same description as that I had noticed. I repaired to this spot, called ‘La Mare aux Songes’, and mentioned to Mr. De Bissy, proprietor of the Plaisance estate, of which this marsh forms part, my hope that, as the bones of one extinct member of the fauna of Mauritius had been found there, those of another and a much more interesting one might also turn up.

He was much pleased with the suggestion, and authorized me to take anything I might find there, and to give orders to his workmen to put aside for me any bones they might find. They were then employed in digging up a sort of peat on the margin of this marsh, to be used as manure.”



Map 4: Mare aux Songes with Blue Bay, the line of the old creek and ravine

Dodo bones are found

After many years of patience and perseverance, George Clark found what he has been looking for...

“...after many fruitless visits to the spot...I resolved on sending some men into the centre of the marsh, where the water was about three feet deep and there, by feeling in the mud with their naked feet, they met with one entire tibia ...

The Dodo-bones were imbedded only in the mud at the bottom of the water in the deepest part of the marsh...Encouraged by success, I employed several hands to search in the manner described; but I met with but few specimens of Dodo-bones till I thought of cutting away a mass of floating herbage nearly two feet in thickness, which covered the deepest part of the marsh. In the mud under this, I was rewarded by finding the bones of many Dodos.

By far the greatest portion of these bones might be divided into two dimensions...leading to the belief that the diversity in their respective sizes arose from the difference of sex.

The Table below shows the bones found by George Clark at Mare aux Songes:

Bones found at Mare aux Songes (1865)			
Many	Some	Few	One
Metatarsals (feet)	Sternums (breast)	Humeri (wings)	Metacarpal (wing)
Vertebrae (backbones)	Scapulae (shoulder)	Coracoids (shoulders)	
Tibiae (lower legs)		Crania (skulls)	
pelvic bones (hips)		Mandibles (upper)	
Mandible (lower)		Radii (wings)	
Fibulae (lower legs)		Ulnae (wings)	

“All the specimens appear to have belonged to adult birds; and none bear any marks of having been cut or gnawed, or of the action of fire. This leads me to believe that all the Dodos of which the relics were found here were denizens either of this marsh or its immediate neighbourhood, that they all died a natural death, and that they were very numerous in Mauritius, or at least in this part of it. The astonishment of some very aged Creoles, whose fathers remembered Labourdonnais, at seeing a quantity of bones of large birds taken from the mud in this marsh, was really ludicrous. ‘How,’ said they, ‘could these bones have got there? Neither our fathers nor our grandfathers ever knew of any such birds, or heard of such bones being found.

I have opened diggings in several marshes which appear to me likely receptacles for the relics of the Dodo, but I have not found a single bone except in the Mare aux Songes. Several gentlemen, witnesses of my success there, have made experiments in other places, but have obtained nothing."

Cholera and Malaria epidemics

Sadly, at the time of this great discovery, Mauritius was having a very bad time with health problems. First, there were cholera epidemics which killed over 12,000 people in all. Then from 1865-68 there was the Great Malaria epidemic when 70,000 inhabitants out of a total of 350,000 lost their lives. Quite naturally, the population were not very interested in Dodo bones when fever was the *only word on every lip, the only thought in every mind and heart*.

Elsewhere, the discovery of Dodo bones helped the world of natural science to march forward, but it did little to help medical science to discover how malaria was caused and spread. At that time it was not known that it was caused by mosquitoes living and breeding around the marshes like Mare aux Songes.

Bones for sale

The bones found at Mare aux Songes, helped to make up a number of nearly complete skeletons, but as the bones were mixed up in the marsh, the skeletons were made up from different birds. About a hundred bones were shipped to Richard Owen, who studied them and published his monograph on the *Osteology of the Dodo* in 1869. Other collections of bones were sent to England and were sold at auction. There is a record that some of these were bought, for £10, by William Flower, who was the Conservator at the Royal College of Surgeons, and from these bones he managed to construct an almost complete articulated skeleton which is still on display.

Some bones found their way to various parts of the world where they were sold privately or at auction. Even Harry Higginson kept some bones that he helped to find, as he records that he sent a full box of these to the museums at York, Leeds and Liverpool, and the York Museum still display the bones donated by their Yorkshire railway engineer benefactor.

The bones were gradually placed in museums in Europe, United States, and South Africa, where they are still being exhibited to this day. One example is the skeleton to be found at the Durban Museum of Natural Sciences which is accompanied with the history of the original purchase:

Of the 10-15 composite and partial dodo skeletons known to exist in various institutions around the world, the Durban Natural Sciences Museum has one of the most complete examples. Here in the South African Museum, we have enough remains to make up an almost complete composite skeleton. Although - as shown in the copy of the receipt - these specimens were acquired in 1865, they have yet to be described in the ornithological literature. They were purchased via the Honourable Edward Newton, the Colonial Secretary, for the sum of twelve pounds sterling from Mr George Clark, a master at the Government School at Mahébourg in Mauritius, who had spent many years searching for dodo bones.

Obviously George Clark must have sold many bones, but he kept some for himself which he left to his children when he died in Mauritius in 1873. The whereabouts of some of these bones came to light in 1921-22 when his daughter, Edith Bessie Clark, was forced to sell some of them in order to pay her "Rates, Taxes and Gas Bills". She sold some bones at auction, and she offered three bones to Thomas Parkin, who was President of the *Hastings and St. Leonards Natural History Society*. Here are two letters she sent to Mr. Parkin; the first tells of how she accompanied here father to Mare aux Songes:

*Thos. Parkin Esq.
High Wickham
Hastings*

*"Tveldene",
16 Sower Park Road,
Hastings.
April 28th 1921*

Dear Mr. Parkin,

I thank you for this morning's letter. I am very sorry to learn that you have been ill, and I hope under God's blessing you will soon recover your health. I can sympathise with you as I am myself only a poor invalid and scarcely able to walk.

I thank you for all the kind advice about the Dodo bones. A neighbour of mine who seems to know you, Mr. Cousins, advised me to write a short account of my Father's discovery of the Dodo bones as people know so little about it. Then the fact that my dear sister and I had gone down to "la Mare aux Songes" when my Father picked up the coracoid bone of the Dodo, is an interesting fact of itself.

These are indeed hard times. I am very sorry for you to have been obliged to diminish your capital. Mine is a very tiny income and I have been nearly ruined by the Rates and Taxes and Gas Bill. Well I can only say that the Lord will help me. He who said: "I will never leave thee now or forsake thee" will surely help me now, so that I may weather the storm.

I am going to write to Stevens the auctioneer and offer some of the Dodo bones that they may be sold by auction. I shall let you know his reply when he write before I send them up to him.

With very kind regards

Yours sincerely

Bessie Clark

The second letter must have accompanied the bones upon the final sale:

Dec. 13th 1922

Dear Mr. Parkin,

I hope your friend has not altered his mind concerning the Dodo bones you had selected for him, namely the coracoid bone and the two metatarsi.

I have put them in a small box ready for your messenger to take away when she calls. They are good bones and I congratulate you on your choice, especially as regards the coracoid bone as that was the bone my Father picked up on the shores of the marsh "La Mare aux Songes", which led to the discovery of the other bones.

I hope you have quite recovered from your illness.

With very kind regards

Yours sincerely

Edith E. Clark

(Copies from the original letters in the private collection of Ralfe Whistler)

These bones are now part of a collection owned by Ralfe Whistler, whose father was a friend of Thomas Parkin. The presence of these bones in the Whistler household, stimulated Ralfe to become one of the largest collectors of Dodo memorabilia and artefacts in the world.

Contributions by Théodore Sauzier, Louis Thirioux and Paul Carié

In 1889, a Paris solicitor by the name of Théodore Sauzier was visiting Mauritius when he requested permission to search for bones at Mare aux Songes from the Colonial Government. This resulted in the finding of further bones belonging to parrots, water fowl, deer, turtles, aphanapteryx and Dodos. He sent some of his specimens to Sir Edward Newton, who was formerly the Colonial Secretary in Mauritius, and together with Professor Hans Gadow and Alph. Milne Edwards, he constructed an entire skeleton which was presented to the Mauritius Museum.

More bones were found in eroded soil around Le Pouce, Anse Courtois, Vallée des Prêtres (all surrounding Port Louis), and Corps du Garde mountain, by Louis Thirioux, a Port Louis hairdresser. His most important find was an almost complete skeleton from a single Dodo, found somewhere near Le Pouce mountain; the exact site is unknown as unfortunately Thirioux never divulged his exact discovery sites. Initially he gave his

finds to the Mauritius Institute in Port Louis, but later he sent specimens to Alfred Newton at the University Museum of Zoology in Cambridge. He sold much of his collection to the Institute for £80, but bought back many of his finds when he became disillusioned with the lack of professional progress shown at the Institute. In frustration, he sent the most important parts of his collection to Alfred Newton, free of charge, and the skeletons and bones of this amateur naturalist have found their way to the Durban Natural History Museum, and to Museums in Paris and Lyon.

Without its treasure of bones, Mare aux Songes would have remained unknown and unrecognised in its topographical depression, surrounded by sugar cane and various other crops. Nearby land became known as Mon Desert in 1783 when it was owned by Allanic de St. Ongal who sold the estate to Jean de Robillard, which later passed to Arnaud Cloupet in 1812. Edouard Cloupet and Jacques Fayolle de St. Felix became the owners in 1833, and Felix Cloupet later inherited the estate. Over the years, additional land was bought, until it had reached an area of 734 acres by 1868, when about 80 acres were under sugar cane. By this time Georges Thomy Thiery inherited the estate, and other estates like Mon Trésor (420 acres) and Magdala (684 acres) were added by the time that Paul Carié and his brothers owned the estate.

Mare aux Songes was originally situated on the Plaisance Estate which belonged to the de Bissy family during the 1800s; the sugar factory being built in 1844. The main additions to the estate took place from 1853 to 1873 which included land at Richfield, Choisy, Ste Helene and Mon Repos. The military aerodrome was completed in 1944, and regular services started in 1945.

Paul Carié was interested in natural history and reported that he excavated the Mare aux Dodo site from between 1910 to 1930, and he also revisited the mountain sites already investigated by Louis Thirioux. Carié, who was unsuccessfully trying to run the Estate while living in France, wrote an article in 1930 in which he describes his finds:

“Mr Thirioux, a Frenchman and a barber by trade, a man of estimable patience and perseverance, spent thirty years searching for precious remains in caves, in places where there had been soil erosion, and at the foot of mountains, where he found intact whole skeletons of Dronte (Dodo) and Aphanapteryx, and the bones of most species of bird, tortoise and lizard.”

The company of Mon Trésor and Mon Desert Ltd. was established in 1926 with a total of 2,888 acres of land, and this was further enlarged by the acquisition of Plaisance, Sauveterre, Virginia, Union Vale and Deux Bras. MTMD Ltd was largely owned by Lonrho Sugar Corporation until 1997 when Illovo Sugar Ltd bought Lonrho's shares, and in 1998 MTMD was consolidated, incorporating Britannia, Highlands, Benares and other smaller operations. The company's major shareholder is now BBHM Ltd who bought Illovo's assets in Mauritius in 2001.

Why were bones found in Mare aux Songes?

Pitot (1914) puts forward several reasons why such a collection of bones were found at Mare aux Songes, but then queries his hypothesis because bones of flying birds were also found in the marsh:

“Mr Clark's discovery cannot possibly be attributed to mere chance; it was, on the contrary, the result of patient deductions and searches in the very places where fossils were likely to be found. The first explanation of the considerable layer of bones found in Mare aux Songes was that during some hurricane or other atmospheric perturbation, the animals had taken refuge together in the neighbourhood and perished there; and that, either through the action of rains, or a flood, or even an invasion of the sea, their remains had gathered together in that marsh, at a very remote period. This would be probable but for the presence of parrot bones, for it is evident that parrots would not have suffered themselves to be drowned, but would have taken refuge in the forests. The bones could not have proceeded from the mountains either, for being washed from their by the rains, they must, of a surety, have followed the river beds.”

The marsh is in a natural depression, so bones would have collected there over a period of many years. The tree lined ravine which runs from Mare aux Songes suggests that there was either a river passing through the marshy site on its way to the creek at Blue Bay, or that the creek itself used to extend as far as the marsh.

During cyclonic weather, the sea would have pushed its way further up the creek, washing all before it, and depositing any debris in the marsh. It is still not known whether the birds were drowned in the marsh by exceptional conditions, or whether they died naturally and were simply washed down into the low lying area.

When George Clark found the bones, no one could remember anything about the Dodos which drank from its waters, as he commented on the reaction of some of the locals after his discovery...

“The astonishment of some very aged Creoles, whose fathers remembered Labourdonnais, at seeing a quantity of bones of large birds taken from the mud in this marsh, was really ludicrous. ‘How,’ said they, ‘could these bones have got there? Neither our fathers nor our grandfathers ever knew of any such birds, or heard of such bones being found.’”

What is Songes?

Songes (*Arum colocasia*) is a marsh vegetable which was probably introduced by the French to help feed the slaves on the sugar estates. At one Estate where it grew, there were many complaints when, in 1750, the Estate owner wanted to clear his marshes of the plant. There are several varieties, but the Songes with the black stem is more popular for eating than the variety with the white stem. The plant no longer grows in the marsh which bears its name, and it didn't grow in the marsh when the Dodo frequented its borders.

Since the find by George Clark many Estate workers call the site, *Mare aux Dodos*, and some writers are translating the French and wrongly calling the area, the *Sea of Dreams*.

Mare aux Songes today

Mare aux Songes was describes by Clark as being *about three miles (5 km) from Mahébourg, and a quarter of a mile (400m) from the sea*. Recent measurements show that the marsh is actually just less that a kilometre from Blue Bay, and about the same distance from La Cambuse public beach. It is now owned and under the guardianship of the Mon Trésor Sugar Estate, and history shows us that the marsh was considered of little value to the Estate, and as recently as 1987, the site was proposed as a rubbish dumping ground for the nearby Plaine Magnien Municipality; but fortunately this offer was not taken up.



Map 5: Mare aux Songes today

In the early 1990s, a Mrs Glachant from France, who was the very aged daughter of the late Paul Carié, came to Mauritius and paid a visit to Mon Trésor. This visit rekindled an interest in Mare aux Songes, and this was reflected by MTMD Ltd., who initiated several projects as reported in the national press:

Le Mauricien (1993)

Mare aux Songes, where in 1865, a young English teacher, Mr Georges Clark, found some Dodo bones, has been for some time the subject of a rehabilitation plan launched by Mr Robert Antoine, a member of the Administrative Council of MTMD Ltd.

Dr Morion Kondo, Professor at the University of Agriculture in Tokyo, and President of the Research Institute Council of Evolutionary Biology, has just visited the site and he has also visited Isle aux Aigrettes to have a look at the endemic plants of the South East region of Mauritius.

The main aim of the project is to recreate the habitat that was there when the Dodo existed in the area, by reintroducing trees that are specific to that area. There are plans also to do more diggings in the area in the hope of finding more Dodo bones. It is important to note that the marsh was filled in during the war to prevent the spread of malaria.

Professor Kondo was a friend of late Professor Robert Antoine who was then a member of the Board of Directors of Mon Trésor Sugar Estate, and became interested in pursuing researches on the Dodo, a project supported by the son of the then Emperor of Japan, a close acquaintance of Professor Kondo. Initially, five core borings were made at Mare aux Songes to a depth of over 10 metres to give a profile of the marsh which had been drained and filled in 1942 by the British Army. In two of the borings, pieces of bone belonging to the Dodo were identified by Tokyo University:

“This aroused great enthusiasm and a visit by the Prince was being planned when the Emperor passed away; his demise shortly followed by that of Professor Kondo, followed by that of Professor Robert Antoine and the whole project has since been shelved.

The project was to involve a team of zoologists and botanists who would use state of the art techniques to look as well at the fauna, for pollen of indigenous plants growing on the site in ancient times with the aim of creating a garden of such plants on the site.

Mare Aux Songes has since been planted with different species of rare plants known to have been indigenous to the area, pending the taking over of the shelved project by others.” (D’Espaignet, 2001)

The core borings, which have been preserved by the Estate, contain a large element of sand, sandstone and fragments of coral (pers. obs., 2005).

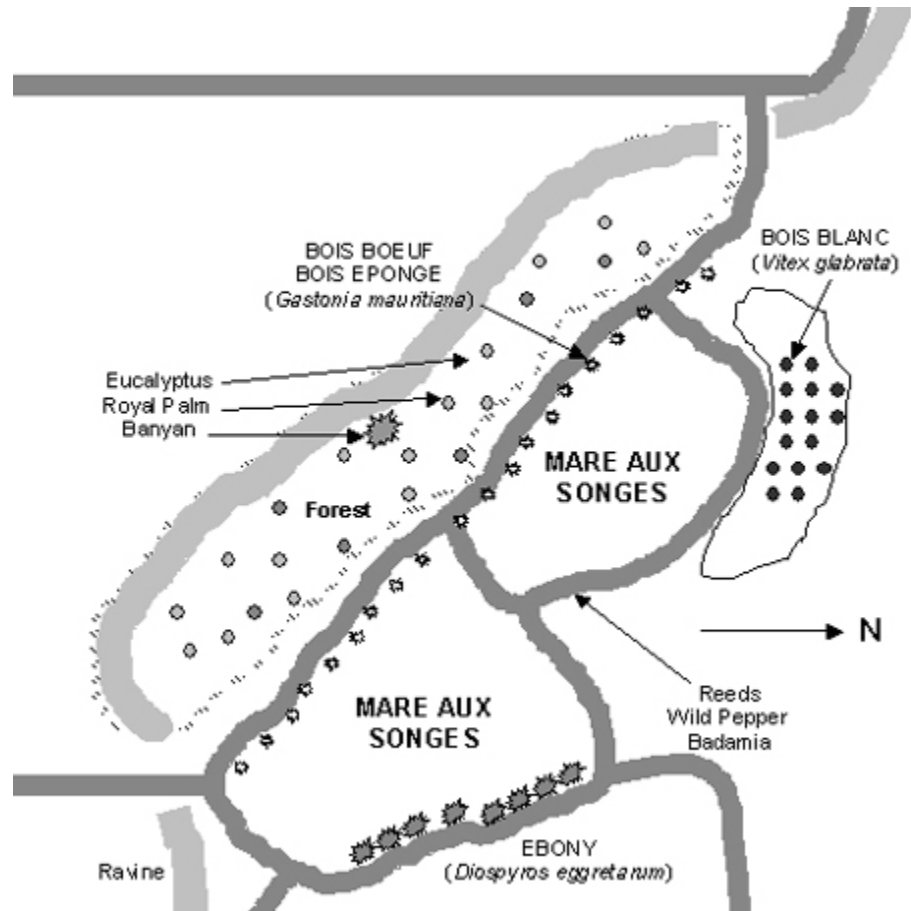
The Estate have tried to preserve the area, and have planted endemic trees in an attempt to bring Mare aux Songes back to its former state. Around the tracks they have planted Bois Boeuf (*Gastonia mauritiana*), Bois de Chandelle (*Dracenna concinna*) and Ebony (*Diospyres egretarum*), and there is a small forest of the indigenous Bois Blanc (*Vitex glabrata*), probably planted about 30-50 years ago. There is another small forest of mixed trees (see Map 6). The Estate must be congratulated on the way they have tried to make Mare aux Songes an attractive place despite a lack of awareness by Mauritians and tourists alike:

Le Mauricien (2000)

The Dodos lived at Mare-aux-Songes in a wild environment of rare beauty. This place still exists and can be visited by anyone. The historic place of Mare-aux-Songes is still not known to the public, although it’s there that the bones of the Dodo were discovered in 1865. Today, even though there are few signs that remind us of the Dodo, a walk in this wild area is worth the effort. This is made easier, as the site has just been cleared to welcome the public.

The site is surrounded by dry ground with an edging of Eucalyptus, Voyager Palms and Rose Peppers. The remains of the Dodos were found in marshy ground which is now covered with smooth-stemmed reeds, the “voondre”. On the sugar estate, nine out of ten know the location of the site, which they call “Mare-aux-Dodos”, but the general public knows very little about the area and it is rarely visited by Mauritians.

At Mare-aux-Songes, we don’t go there for the Dodo, but for the silence, which is the key word. It is like a sign of respect; for it’s the silence of the Dodos. (Prosper, 2000)



Map 6: Trees at Mare aux Songes (2005)

It appears that Mare aux Songes is waiting “off-stage” to be developed in a sensitive way, and is the natural place for a major bird sanctuary and a shrine to the Dodo icon.

With this in mind, a Project entitled “The Dodo Experience at Mare aux Songes” has been proposed by the writer of this Study Paper to the Estate. The first meeting (Alan Grihault/ Christian Foo Kune, Managing Director of the Mon Trésor Sugar Estate) took place on the 15th June 2005 in order to put forward a number of proposals for the Project. Future meetings have now been arranged, so it seems that this long forgotten and neglected marsh may have an interesting and challenging future after all.

The marsh area is still giving up evidence of the past. Recently, when the Estate was clearing large stones north-east of Mare aux Songes, Griffiths and Middleton (2005; pers. ob.) discovered snail shells belonging to a variety of extinct and rare specimens in the dry hillside...

Report on Land snails of Mare aux Songes, Plaisance, S.E. Mauritius

Site description: Under deep rock piles exposed by bulldozer on eastern side of Mare aux Songes.

Collected: O.Griffiths, G.Middleton, June 2005.

Extinct

Tropidophora carinata ; *Plegma duponti*

Locally extinct, i.e. no longer occurring at the site but still surviving in Mauritius

Cyclotopsis conoidea; *O.clavula*; *Gonospira callifera*; *Microstrophia clavulata*; *Plicadomus sulcatus*; *Erepta odontina*; *Ctenophila vorticella*; *Pachystyla bicolor*; *Dupontia* sp.

Still survives at site

T.fimbriata; Omphalotropis variegata; O.desjardinsi ; Maurennea poutrini; Louisia barclayi; L.duponti; Gastrocopta microscopica; Nesopupa peilei; N.rodriguezensis; Quickia concisa.

NB only native species listed.

Comments: Fauna typical of wet lowland forest situation. Local extinctions from time of local forest clearing 1830's – 1860's ?

BIOGRAPHICAL NOTES**Philip Burnand Ayres (1813-1863)**

Philip Ayres was born in Oxfordshire, England and arrived in Mauritius in 1856 as the Superintendent of the quarantine stations. In 1859 he was surgeon-in-charge of the Civil Hospital in Port Louis, by 1860 he became the General Sanitary Inspector. He was an active member of the Royal Society of Arts and Sciences of Mauritius. One of his interests was studying the fossil forest of Isle aux Aigrettes. Dr. Ayres died in Port Louis.

George Clark (1807-1873)

George Clark was born in the UK, and was sent to Mauritius with a group of missionary teachers under the Lady Mico Charity, a Protestant Foundation; being appointed on the 11th May 1851 at £177 per year, together with his wife, Elisabeth, at £48 per year. He taught at the Mahébourg Government School, and was later promoted to Headmaster of the Mahébourg Juvenile School in 1868. The Anglican Church in Mahébourg (Christ Church on Maurice Street) was completed in 1856, so George must have worshiped there. He had read about the Dodo in Strickland's book (1848), and was interested in finding proof that the Dodo had actually existed in Mauritius by producing physical evidence. He resigned from teaching in December 1872, and died in Mahébourg on the 6th February 1873, after only a few months of retirement.

Harry Pasley Higginson (1838-1900)

The son of a clergyman, Harry Higginson was born and bred in Thormanby, North Yorkshire. He trained in Civil Engineering, and built railways in Latvia, Mauritius, India and New Zealand, where he became Chief Railway Engineer and remained for the rest of his life. He arrived in New Zealand in 1872, and married Florence Kebbell in 1874; producing 7 children. A stained glass window in Wellington Cathedral commemorates his work, and one panel depicts a Dodo.

Alfred Newton (1829-1907)

Alfred Newton was Professor of Zoology at Cambridge University and was a well known ornithologist and author. He made various studies of the Dodo, aided by his brother, Edward, who was stationed in Mauritius. He created a large archive on the Dodo, and produced several Research Papers.

Sir Edward Newton (1832-1897)

Edward Newton was the brother of Alfred, the zoologist at Cambridge. Edward entered the Colonial Service in 1829 when he was posted to Mauritius. He became Assistant Colonial Secretary (1868), and Colonial Secretary until 1877. He helped George Clark in searching for bones, and was the Founder of the *Ibis Ornithological Review*.

Richard Owen (1804-1892)

Richard Owen could be arrogant, difficult and just plain wrong, but he was the pioneer who brought dinosaurs back to life. He was born in Lancaster, England, and showed an early passion for anatomy while he was a medical student at Edinburgh University. He developed the skill of being able to reconstruct extinct creatures from the smallest piece of fossil evidence. An early success was identifying the Giant Moa from a small fragment of bone only six inches long. As Superintendent of Natural History at British Museum for 28 years, he contributed to the study of flightless birds and fossil reptiles, and coined the word *dinosaur* in 1842. Together with William John Broderip, he wrote his "*Memoir of a Dodo*" in 1866, which built on the discovery of bones by George Clark. He was Knighted with the Order of the Bath by Queen Victoria. A deeply religious man, he opposed Darwinism and the theories of natural selection, and this running battle with Darwin did little to enhance his reputation, and he constantly disagreed with the ideas of Strickland. He designed the Natural History Museum to look like a church, and spent the last few years of his life completing the Museum and the collections there.

Nicolas Pike (1818-1905)

Lt. Colonel Nicolas Pike was an US Consul, together with being an author and naturalist. In 1849 he was elected president of the Brooklyn Natural History Society, and in 1865 he became president of the Microscopical Society. He arrived in Mauritius as US Consul in 1867, and went on to produce many articles and 500 drawings on fish. His book, "*Sub-tropical Rambles...*" was published in 1867, and he returned to the USA in 1874.

Théodore Sauzier (1829-1904)

Although born in Reunion, Théodore Sauzier died in Paris where he was a Notaire. He came to Mauritius in 1889, and from then until 1892 he revived the successful search for Dodo bones at Mare aux Songes.

Hugh Edwin Strickland (1811-1853)

Hugh Strickland was born in Yorkshire, but later lived in Apperley, near Cheltenham, England. He was the grandson of Edmund Cartwright the inventor of the power loom. He studied geology at Oriol College, Oxford, but was also interested in fossils and shells. He travelled extensively abroad, as well as becoming an authority on the geology of the Cotswolds.

Hugh joined the Field Club in 1846, and gave a lecture on another of his interests, the Dodo, at the British Association Meeting in Oxford, in 1847. He became Deputy Reader of geology at Oxford, and President of the Ashmolean Society. He published his "*The Dodo and its Kindred*" in 1848. While studying the geology of a railway cutting at Clarborough, near Retford, he was tragically hit by a train and was killed. His notebook, which was found nearby, contained sketches of the Clarborough Hills. A stained glass window, and dedication to him, can be seen at Deerhurst Church, near Apperley.

Louis Etienne Thirioux (1846-1917)

Louis Thirioux was born in France, but came to Mauritius in 1870 when still a young man, and worked as a hairdresser in Port Louis. He liked to talk to his customers on all subjects, especially about his natural history finds. He explored many caves, rivers and holes, and recorded his finds with great patience. As well as finding the bones of parrots and lizards he also found those of the Dodo. He died in Rodrigues where his son had become a magistrates clerk.

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PEOPLE WHO HELPED

ALLET, Morro. Forester.

APPADOO, Laure. Bishop's Secretary.

GRIFFITHS, Owen. La Vanille Réserve des Mascareignes.

JUMOORTY, Raffick. Forester.

MIDDLETON, Greg. Tasmania. Set up National Parks in Mauritius 1991-95.

MON TRÉSOR SUGAR ESTATE STAFF:

Christian Foo Kune – Managing Director

J. Arthur Lagesse

Jean Pierre Pilot

Mario Olivier

Mary Li Chin Ng

Vijay Beeharry

Michèle Rault

Gisele Chicoré

NATIONAL PARKS and CONSERVATION SERVICE

PIAT, Father George. Mahébourg Roman Catholic Church.

RAMDHON, Mrs. Archives Department, Port Louis.

RAMJAUN, Ibrahim. Librarian, Bibliotheque Nationale, Port Louis.

SENEQUE, Therese; Serge and Marie-Claude. Manioc Biscuit Factory, Mahébourg.

TURSAN D'ESPAIGNET, Jacques. Former Managing Director, Mon Trésor Sugar Estate.

WHISTLER, Ralfe. Dodo House, Battle, England.

Alan Grihault (June, 2005)