

February 2001

Welcome to the first edition of The Mashatu Billboard!

We hope you will enjoy our quarterly news piece, and will find the extracts contained herein informative, and entertaining. Mashatu Game Reserve is an area of history and legend. It is also home to a vast array of wildlife, flora and breathtaking landscapes as far as the eye can see. We aim to bring these different aspects to you – until such time as you have the opportunity of sharing the Mashatu experience with us firsthand!

KEEPING YOU IN THE LOOP - DID YOU KNOW THAT...

1. CONGO HAS RECEIVED A PROMOTION....

Name: Congo Kamogelo

Date of birth: 24/08/1959

Place of birth: Bobonong, Botswana

Occupation: Assistant Operations Manager. Responsibilities include ranger co-ordination, guest activities and hosting

Special interests: Conservation in general

Firstly, well done Congo on your recent promotion from Head Ranger to Assistant Operations Manager!

Congo has been a ranger at Mashatu for eight years. Previously Congo worked for Botswana's Department of Wildlife and National Parks as a law enforcement officer, in the licensing department, in public relations and children's environmental education.

As a ranger at Mashatu, and in his own words, Congo has a sighting which he will never forget. *"I was on an afternoon drive and the sun was close to setting. My six guests and I were viewing a leopard stalking a group of impala along the riverine bush. Suddenly the leopard attacked the impala which jumped off in all directions. An impala ewe and ram fled straight towards us with the leopard chasing them. The ewe escaped by jumping clean over the guests and the vehicle. The leopard caught the big ram a metre from the vehicle. The ram was very strong and it kicked and dragged the leopard under the vehicle before it was killed. A minute later the leopard dragged the ram out from under the vehicle and up a nearby leadwood tree."*

2. WHEN IT RAINS - IT POURS!!!

Last years rainfall figures for the rainy season was over a 1000mm. This is 3 to 4 times our normal annual rainfall for this semi-arid region. The results have been promising. The water table has risen and water seeps continuously out of the earth in the form of springs, which in turn feeds the larger rivers keeping them flowing year round. During this wet patch guests arriving at Mashatu were faced with two different modes of transport to cross the swollen Limpopo River. Initially the cable car was used to ferry guests to and fro. Once the river had swollen to such an extent that the cable car was flooded, guests were then transported in a semi-rigid inflatable. This was an adventurous time for all involved.

3. MEALS ON WHEELS JOINS ARGUS!

As an incentive and marketing tool, a team of staff from Mashatu participated in the Argus Cycle Tour in Cape Town. The group consisted of three riders, Jou Mazebedi, Senti Mazebedi and Grant Hall. These three individuals conduct cycling safaris in the game reserve, providing guests with an exciting and unique way of viewing Mashatu's wildlife "up close". All three did a fair amount of training in the bush, but the heavy rains at the beginning of the year negatively affected their cycling training. It became so muddy and slippery, that it was nigh impossible to ride anywhere (the bikes kept getting stuck in the mud!) This was both Jou's and Senti's first trip to the Cape and they were both very excited, as neither of them had ever seen the sea before! Both of them braved the chilly waters for a quick swim. The team were accommodated at a backpacker's hostel in Green Point, "the Sunflower Stop". There they had the opportunity of meeting a number of other riders, including another Botswana cyclist. All three spent some time working at the Mashatu stand at the cycle expo, distributing information on the cycling safaris at Mashatu. It was a novel experience for Jou and Senti to see just how many cyclists

there are, as well as the bewildering array of "goodies" available to ensure the maximum comfort on any ride.

On the day of the race, the Mashatu "Meals on Wheels" team started in the PF group. Jou rode a Giant Yukon mountain bike; Senti rode a Falcon road bike and Grant, a Trek 6000 mountain bike. Both mountain bikes were fitted with slick road tyres. Senti moved ahead soon after the start and put in a time of 5 hours and 15 minutes, Jou finished in 5 hours and 45 minutes and slowpoke Grant in 6 hours 12 minutes. All three members of the team enjoyed the race, apart from the "delightful" ascent of Ou Kaapseweg (on this point - most cyclists would surely agree). After the race, Jou had the following to say about the whole experience: "FANTASTIC!!!" All three are very keen for the next Argus in 2001.

4. DISCOVERY AT MASHATU MAIN CAMP

We bring you - THE DISCOVERY ROOM....

This is a small-scale museum where different specimens, preserved and alive, are on display. Recent additions to the discovery room are: a juvenile african rock python; spotted bush snakes; eastern tiger snake; side striped sand snake; rock monitor and a host of other 'creepy crawlies'.

The spotted bush snake, sand snake and rock monitor all share the same large cage. Recently, a skink along with frogs was thrown in as food. The rock monitor and sand snake both seized either end of the skink and the battle for 'ownership' was on. This was no problem for the rock monitor who continued feeding until the sand snake was also in its belly.

THE LEGENDS OF MASHATU - By Jeanetta Selier

*"The elephant moves slowly to protect its vast brain,
With which it hears subsonic sound,
And in which it carries the topology,
The resonance's and reverberations,
Of a continent."*

Heathcote Williams (Survivors Song, Owens 1992)

"I am an independent researcher based on Mashatu Game Reserve conducting research on behalf of the Northern Tuli Game Reserve. Whilst I am grateful to Mashatu for providing me with accommodation, my research is an unbiased study of the elephant dynamics of the region, and my studies are being financed from the generous donations of various organisations and individuals."

Many thanks to all of the sponsors of this project:

Mashatu Game Reserve (Accommodation, food, vehicle, fuel and logistical support)

NOTUGRE (Financial support)

Pittsburgh Zoo (Financial support)

Peace Park Foundation (Financial support)

Disney Corporation (Financial support)

Rhino, Elephant and Wildlife Foundation (Equipment)

Several Landowners within the study area (John Dewar, Chris Burlock, Marcel Burgauer, Geoff Norris, Digby Bristow) - Equipment and financial support.

PROFILE OF JEANETTA SELIER

Jeanetta Selier was born on 15 October 1972 in Pretoria. She completed her high school education at Hoërskool Waterkloof in Pretoria in 1990. In 1995 she completed a B.Sc. Agric degree majoring in Animal Husbandry at the University of Pretoria, South Africa. As part of her studies she stayed and worked on the University Experimental Farm and gained experience in managing various farm animals. From 1996 to mid 1997 she worked as a research technician at the Agricultural Research Council in Irene, South Africa. She specialised in the nutrition primarily of monogastric animals (pigs, rabbits, cane rats) and small farmer projects. In 1998 she returned to the University of Pretoria to complete an Honours Degree with the Centre for Wildlife Management. At the end of 1998 she successfully completed the B.Sc. Hons. degree (Wildlife Management) with three extra subjects - Monogastric Nutrition, Ruminant Nutrition and Biometry. As part of the degree she did a research project studying a small group of juvenile elephants on a reserve outside Warmbaths close to Pretoria. The juveniles were translocated to the reserve as part of Kruger National Park's relocation programme. The reserve experienced similar problems to other reserves like Pilanesberg where the juvenile elephants were harassing the white rhinos. The aim of the project was to establish the reasons for this delinquent behaviour, to find possible solutions and to determine the current and future impact of these elephants on the vegetation of the reserve.

In 1999 the Northern Tuli Game Reserve (of which Mashatu comprises almost 50%) and the Centre for Wildlife Management (University of Pretoria) initiated an elephant research project to formulate an elephant management plan for the area. Jeanetta Selier was to be the principal researcher. The project officially commenced in September 1999 and will continue to the end of June 2001. The broad objective of the project is to determine the range, numbers, social structure and demographic structure of the African elephant population in the Central Limpopo Valley and to relate its distribution and demographic structure to the land use in the region.

The Central Limpopo Valley covers an area of more than 300 000 ha and spans three countries - namely Botswana, Zimbabwe and South Africa. It is also the area that will hopefully, in the near future, form in part the Limpopo - Shashe Trans Frontier Park.

THE HISTORY OF THE TULI ELEPHANTS

The Tuli elephant population is the largest free ranging, flourishing elephant herd on private property south of the Zambezi River.

This population has quite a history. Since the early 1800's they were mercilessly hunted by such people as Coenraad De Buys (the first white man known to have hunted in this area), David Holme, Rousleyn Gordon Cumming - but to name a few. By 1855 elephants were so scarce that hunters such as Baldwin, Oswell, Finaughty and Selous had to venture much further north to successfully complete their task. By the time F C Selous led the pioneer column into Mashonaland in July 1890 the country was depleted of elephants. For the next 50 years no elephants were observed in the vicinity from the Motloutse River to the Shashe River.

In 1940 Dr. Z. Nel became the first landowner to sight the return of these giants to the area. Elephants were moving into the area from the north and west. In 1956 Bechuanaland had established a game department with the task of controlling elephants within the tribal and irrigation areas (an operation that eventually accounted for 1 800 elephants). During this time Rhodesia had begun its culling operations, and Transvaal farmers in South Africa, south of the Limpopo River were accused of shooting indiscriminately.

So, once more hounded by the gun and a diminishing habitat, the elephants began to retreat into the Tuli enclave (there was no other place for them). In 1960 one landowner counted 300 elephants within The Northern Tuli Game Reserve. By 1970, reports of a vast increase in elephant numbers and widespread habitat destruction were received. The first aerial count conducted in the area was in June 1976. During this count 443 elephants were counted. A count later the same year revealed 590 elephants. A count done the following year revealed only 190 elephants. These figures provide evidence of the extent of elephant movement in and out of the reserve.

No fences exist in the area to limit elephant movement, and the elephants can therefore move far and wide between the three different countries. In the early 1990's elephants were observed for the first time in areas from which they had been absent for many years. Elephants crossed the Shashe River, and a resident herd established itself on two privately owned farms on the Limpopo River in Zimbabwe.

Elephants also moved further down the Tuli Block and a herd established itself in the Platjan area. Reports of elephants crop raiding as far as Selebi-Phikwe were received, and after the completion of the Letsibogo dam a small herd of elephants established itself in the area around Mmadinari, much to the consternation of local farmers.

THE TULI ELEPHANTS TODAY

Total aerial count

One of the important aims of this study was to determine the range and numbers of the elephant population. Regular aerial counts have been conducted since 1976 within the Northern Tuli Game Reserve. Elephant numbers have, however, fluctuated dramatically between the different counts. This is an indication that elephants move in and out of the reserve at certain times of the year.

A total aerial count was conducted in August 2000 to establish the correct number of elephant utilising the Central Limpopo Valley Study area. The count was conducted over a three-day period covering the three countries involved. Each country did their own count using a fixed wing aeroplane, pilot, navigator and two counters. All three planes flew simultaneously to prevent double counting. The results are as follows:

Country	Area	Bulls observed	Total
Zimbabwe	Nottingham & Sentinel	1	170
	Tuli Circle	3	57
	Shashe River		120
		4	347
Botswana	NOTUGRE	6	523
	Tuli Block	18	362
	Village areas	7	23
		31	908
South Africa	Samaria II	5	5
		5	5
Total counted			1260
12% Correction			151
Corrected Total			1411

As part of the aerial count, elephants were vertically photographed from a known height to determine the age structure of the population.

As part of the study, the number of herds utilising the study area, as well as the matriarchs of these herds needs to be determined. The matriarch is the oldest and most dominant cow within a herd. She is responsible for the protection and well being of the herd and will lead them to the best food and water sources within their home range.

Several herds have so far been identified within the study area. "Charge's" group is one of them. As her name implies she likes to give a threat display every now and again, but is for the most part very well natured. "Charge's" herd consists of approximately 30 animals who are usually seen along the Majale and Matabole Rivers within the Northern Tuli Game Reserve. Together with Charge is a cow named "Broken Tusk", and another very young cow called "Slender Tusks". These three are inseparable and always found in close proximity to each other.

Elephant Society consists of several family units each comprising a matriarch, her daughters and their offspring. Bulls up to the age of 15-20 years are tolerated within the herd. After this age they either leave out of own free will or get forced out by the females within the herd. These bulls will join up with older solitary bulls until such time that they are big enough to compete with other bulls for the privilege of mating with a cow.

During the spring season several family units may join and during these times herds of up to 300 elephants can be seen. "Charge's" and "Christina's" herds frequently join up and together they form a herd of approximately 100 elephants. What a sight to see in the early morning hours when they move from the open areas into the riverine thickets along the Majale River.

Identifying individuals is easily achieved by observing the outline pattern of their ears. By examining "Charge's" left ear she can easily be identified. She has a unique half circle cut out of the end of her ear. This together with the shape of her tusks and tail is the way in which to recognise her. "Broken Tusk", on the other hand has perfect ears but as her name implies, one broken tusk.

Over the last couple of months several new babies have been seen. "Charge's" group is no exception. After a gestation period of 22 months one calf is born weighing anything from 80 - 100 pounds. These youngsters will suckle for at least two years, or until the next baby is born - and for the first couple of years are completely dependent on the herd for their survival. The new calves are very vulnerable and it

is every cow in the herds' duty to protect these youngsters. They work as a unit protecting the youngsters from getting stuck in mud, predation by lions, hyenas - and anything else that could threaten their survival - including man. This is also the time for the sub-adult females to learn how to take care of calves in order to one day take care of their own. They will play with, and guard the young calves, especially by preventing them from straying too far from the herd.

As part of his PhD program, Grant Hall will be conducting a series of excavations at Mmamagwa Hill. On the 11th of September 2000, he received his research permit from the Botswana Government, which has been validated for the next four years. The first excavations at Mmamagwa will begin in January 2001.

PROFILE OF GRANT HALL

Grant Hall was born in 1970 in Roodepoort, Johannesburg, South Africa. He grew up in Pretoria, attending Waterkloof Primary School and then completed his high school education at Pretoria Boys High. After his matriculation in 1987, he moved to Cape Town, where he attended the University of Cape Town. There he majored in Botany and Archaeology, as well as completing two years of Zoology. During this time he gained a lot of fieldwork experience, assisting with a number of research projects, particularly on the Cape West Coast and Cedarberg Mountains.

Grant then went on to complete his BSc Honors and Masters in Archaeology. Both theses were based on research conducted in the Sterkfontein Valley near Krugersdorp in Gauteng. This area, the Cradle of Mankind, has recently been declared a World Heritage Site on the basis of the numerous early hominid sites found there. During his university career, Grant also had a number of part-time jobs, including working as a research assistant in the Archaeology department, as well as a tour guide on an Ostrich Farm and a Wine Estate. The tour guiding positions stimulated his interest in combining archaeology with tourism as a career opportunity.

After the completion of his Masters in 1995, Grant attended an intensive course in game ranging in the Sabi Sand Wildtuin, gaining a national diploma. Work was however not forthcoming, and in early 1996 he went over to the United Kingdom for two years, doing a variety of temporary work, including a period with the Oxford Archaeology Unit. There he assisted with the rescue excavation of a number of late Bronze Age/ early Roman sites. He returned to South Africa at the end of 1997.

In May 1998 he joined Mashatu Game Reserve as their resident archaeologist. In addition to the development of Mashatu's archaeology, Grant is also involved with the Mountain Bike Safaris and the ongoing development of the Discovery Room at the Main Camp. He is about to commence a series of excavations at an important Iron Age site located on Mashatu, as part of a PhD program through the University of the Witwatersrand in Johannesburg.

THE MASHATU ARCHAEOLOGICAL RESEARCH PROGRAM

There has been considerable archaeological research carried out into the Iron Age of the Shashi-Limpopo basin over the last 60 years, mostly prompted by the discovery of gold at the site of Mapungubwe in South Africa. The discovery of the Golden Rhino and other artifacts at Mapungubwe and detailed investigations of the sites of K2 and Schroda have brought the Shashi-Limpopo basin to the attention of the archaeological world and also to the general public. These three aforementioned sites are located about 35 kilometers to the east of Mmamagwa, on the South African side of the Limpopo River. The majority of this research has been carried out within South Africa and has yielded a vast amount of information. A large number of sites have been located and excavated in recent times and there is presently a drive to accumulate more information in order to reconstruct the Iron Age sequence of the Shashi-Limpopo Basin. The Shashi-Limpopo Basin, however, covers three countries, namely Botswana, South Africa and Zimbabwe and although much work has been carried out in South Africa, there is the need to increase the amount of archaeological information available from both Botswana and Zimbabwe.

A. Prior archaeological research in the area:

Although there are a number of Iron Age archaeological investigations being carried out in Botswana, the area known as the Tuli Block has not been extensively studied and surveyed, as yet, although there is now a drive to change this. As previously mentioned, Mashatu has a large number of archaeological sites present. These sites range from small kraal sites to substantial habitation sites. The most notable site is known as Mmamagwa, and is located near to the Motloutse River.

In the late 1970's some archaeological work was carried out in the area and three sites were examined, namely, Pitsani Hill, Leeukop and Mmamagwa. Pitsani Hill and Leeukop were fairly extensively excavated, but only a few test pits were dug at the site of Mmamagwa. At a later stage some preliminary surveying of the northeastern Tuli Block was carried out through the use of aerial photographs, but the data was not published. However from this initial work, it is evident that the site of Mmamagwa, located about 1.5 kilometers from the banks of the Motloutse River, has a substantial amount of archaeological material. There are a number of smaller sites located fairly close to Mmamagwa, including Leeukop, the majority of which appear to have fair amounts of surface material.

Commando Kop was excavated after archaeological material was discovered during the construction of a lookout hut. Pottery fragments, bones and other cultural material were found and unfortunately some unscientific digging was done before a proper archaeological excavation could be carried out. There is a historical component dating to the Second Anglo-Boer War, but this was a brief occupation and did not affect the Iron Age material. Three areas were excavated and a number of collapsed huts, ash middens and some smaller pole and daga structures located. Some beads, pieces of metal, slag fragments and some broken clay figurines were also found. A total of eleven burials were excavated, ranging from infants, youths and adults, all associated with one or more pots.

C Van Waarden, as part of a larger research project sponsored by Trent University (Canada) carried out excavations at Leeukop in 1978. The site, located on the top of a sandstone hill, consisted of more than 40 pole and daga structures and several middens. The main component was dated to between 1881 and 1912. There was an earlier component dating to AD 1645 ± 45, but it is only represented by very ephemeral deposits. It was possible to identify kitchens, granaries and various other parts of the settlement. From the pottery found, it is likely that the occupants were Venda and/or Shona-Kalanga. A number of grindstones and an iron hoe were located, as well as about 30 kilograms of assorted faunal material. Thirteen burials were located.

B. The Mmamagwa Site Complex:

A detailed survey and a series of excavations on the site of Mmamagwa are planned in order to add to the available data on the Iron Age of the Shashi-Limpopo Basin. Certain sections of the site are also threatened by erosion and it is proposed to carry out some rescue work and stabilise the endangered areas. In addition, a site survey of Mashatu is planned, as a means of determining distribution patterns of various Iron Age groups within the area.

Initial investigations were carried out at Mmamagwa, in 1977 and 1979 as part of the Trent University project. Over 14 middens or ash heaps, each about ten meters across were noted. Pottery, bone and flooring were seen in the banks of a small stream that cuts through the site. Some test pits were dug and almost 20 kilograms of bone were obtained from one of the pits. From initial surveys carried out, the site is estimated to be about 40 hectares in size, with the main occupation area covering about 300m². From surface finds of pottery and other artifacts, it is evident that a number of different groups occupied the site. In fact the potential sequence of occupation runs through from the earliest Iron Age group, the Zhizo, into Leopard's Kopje A or K2, Mapungubwe, Khami and more recently Venda. Much of the material that has been found thus far is from the surface of the site. The burrowing actions of springhares and other rodents have brought up large amount of pottery, bone and other interesting material. A single radiocarbon date was obtained from the base of a test pit at the site yielding a date of AD 940. Due to this almost continuous sequence of occupations the site of Mmamagwa has the potential to provide a lot of information about the spatial and temporal relationships between the various groups occupying the area. It is also thought that Mmamagwa was an important district center during the Mapungubwe Period and it will be extremely useful to examine the relationships between the two sites.

The main aims of the project are as follows:

1. The location and identification of specific occupation sites and features of the different Iron Age groups represented at the site of Mmamagwa.
2. The excavation of selected areas at Mmamagwa, based on the initial survey to determine the spatial and temporal relationships between the respective Iron Age groups represented at the site. This will allow one to examine the various ways each group utilised the site and how the use of Mmamagwa may have changed over time.
3. The systematic analysis and classification of all archaeological material obtained from excavations. This will allow one to differentiate and characterise the various different groups represented at the site and lead onto an idea of how daily life was conducted at Mmamagwa. The analysis will also give an indication of the cultural development and changes over time of the Iron Age groups that occupied Mmamagwa.
4. The systematic surveying of Mashatu in order to identify and plot the locations of all archaeological site on 1: 50 000 topographic maps. This will provide an idea of the distribution patterns of the various Iron Age groups within the study area and allow one to determine a probable core area of sites. At the moment, there have been 44 sites identified and recorded.
5. The estimation of Iron Age populations in the area and how they may have changed over time.
6. The implementation of anti-erosion techniques at damaged areas of Mmamagwa to conserve the site and prevent further damage.
7. Further development of Mmamagwa and possibly other sites as viable eco-tourism attractions. This will include the employment and training of local guides, who will be incorporated into the tourism aspect of Mashatu Game Reserve's operations.

The first excavation will cover an area that has a number of relatively undisturbed features, including a hut floor and a cattle kraal. This area is located on the banks of an old streambed that runs through the site complex. During the period of intense rains at the beginning of this year, a section of the stream bank was cut away by flooding, exposing a very neat section of the archaeological deposit. Although some material was undoubtedly lost to water action, the flooding has provided Grant with a unique starting point for his investigation. A grid will be laid out over the area and a detailed plan of the features will be drawn up, as the area is uncovered. The flooding has also caused a fair amount of erosion at other parts of the site, and plans have been made to prevent any further loss of archaeological material. One notable find, made thus far, has been the discovery of a virtually complete decorated clay pot, dating to about 850 years ago. This item was also washed out during the rainy season.

A further complication experienced at Mmamagwa has been the dust bathing activities of some of Mashatu's larger inhabitants, namely the elephants. They have taken to kicking up soft dust on two of the larger middens at Mmamagwa, disturbing a number of features. A few ideas have been formulated to prevent any further elephant damage. Can you imagine Grant happily excavating away, when suddenly a large pachyderm falls on top of him, whilst at work down an excavation!!

A number of other sites have also been more thoroughly exposed during the rains. A particularly rich site from the recent Venda period has been located near to the Limpopo River. A knobbed copper ingot, weighing about 4 or 5 kilograms was found there. It is called a Musuku and dates to between the 17th and 20th centuries. The knobs on the ingot are thought to represent the Candelabra tree.

As the excavations at Mmamagwa progress, under the watchful eyes of the resident Black eagles, baboons and rock hyraxes, there will be regular updates of the latest finds and developments.

THE ARCHAEOLOGY OF MASHATU

Introduction to the Iron Age of Southern Africa:

Mashatu has a rich and varied array of archaeological sites covering a long period of time. These include early Stone Age sites, between 1 million and 500 000 years old; Iron Age sites dating from about 1100 years ago; to historical sites from the Second Anglo-Boer War and the early British pioneers. The main aspect of Grant's research is on the Iron Age sites of Mashatu. What follows is a brief introduction to the Iron Age of southern Africa and a more detailed description of how the excavations will be carried out at the site of Mmamagwa.

The Iron Age in southern Africa dates back about 2000 years, when various Bantu-speaking groups began moving southward from North Africa. This migration was a result of a number of factors, such as climatic change and increasing populations. These groups moved southward down both the western and eastern sides of Africa, in series of waves. Prior to their arrival in southern Africa, the only inhabitants were the San and Khoi, Stone Age people who practiced either a hunter-gatherer lifestyle or nomadic pastoralism. The origins of the San and Khoi go back at least 120 000 years - they were the original inhabitants of southern Africa. The Bantu-speaking groups brought about some serious changes and affected both the land and the people living there. They brought with them the ability to make and fire pottery, mine and smelt iron, gold and copper. Other characteristics of these new arrivals included the keeping of domestic cattle, cultivating crops of sorghum and millet and the establishment of permanent villages. The Iron Age people were also traders and as far back as 1700 years ago had developed trade relations with Arab traders, sailing down the east coast of Africa. The Shashi-Limpopo Valley, thus forming part of the Indian Ocean trade network.

A number of different cultural groups have occupied the site of Mmamagwa, coming and going as fortunes changed. The earliest inhabitants most likely appeared sometime during the Middle Stone Age and the site has been occupied on and off for at least the last 50 000 years. The earliest Iron Age group to arrive in the Central Limpopo Valley was the Zhizo, appearing at Mmamagwa about 1200 years ago. There are not many traces of the Zhizo left in the reserve, apart from Mmamagwa and another site called Pitsani Hill. The trade links that had been made between the Iron Age groups and Arab traders began to have a profound change on their culture and lifestyles. These changes were to manifest themselves in later groups occupying Mmamagwa.

Between 900 and 850 years ago a new group made their appearance in the Limpopo Valley. These were the Leopard's Kopje A or K2 peoples. They occupied a large area of almost 30 000km². There are a large number of K2 sites around Mashatu, but Mmamagwa is one of the most notable ones. These people were responsible for forcing the Zhizo to the peripheral areas and towards western Botswana. There was still some contact between the two groups, in the form of some trading, inter-marriage, rainmaking ceremonies and cattle raiding. The K2 people did not build any of the stone walling to be found on the cliff-top at Mmamagwa, but rather based their village down on the valley; the walling was a more recent

development. As previously mentioned the contact between traders brought about a significant change in the social structure of the Iron Age cultures. Cattle, although still of major importance, were no longer considered the main indicator of wealth. It was rather the possession of imported trade goods, such as beads, woven cloth and porcelain that gave one status. This brought about the development of a social elite hierarchy and resulted in significant changes within the village social and physical structure.

Around 750 years ago, the K2 people underwent a cultural change and developed into what we refer to as the Mapungubwe culture. Each culture is identifiable by a series of decorative patterns used on their pottery (in this manner archaeologists can determine when a new culture established itself, by examining changes in the decorative pottery styles). The Mapungubwe culture is well represented at Mmamagwa, with numerous decorated pottery fragments and other items readily located. These people were responsible for the first stonewalls on the top of the cliff, about 700 years ago. This was due to further shifts in the social structure, with the royalty moving away from the village in the valley below, to on top of the cliff. The chief and his family, advisors, bodyguards and the witchdoctors physically isolated themselves from the villagers, living in ritual seclusion. The Mapungubwe culture did not last for very long (about 100 years), before climatic changes had a dramatic effect on the Limpopo Valley. The lack of sufficient rain to grow crops and raise livestock forced people away from the Limpopo Valley in a northeasterly direction. With the shift away from the Limpopo, the control of trade moved as well, and ultimately led to the formation of the Great Zimbabwe culture, and the associated Great Zimbabwe capital, with its magnificent stone palace, court and walls.

As Great Zimbabwe grew in power, the majority of people living in the Limpopo Valley moved away, seeking to either increase their wealth and status, or to find a suitable climate and sufficient land to provide enough food for themselves. Thus between 1330 AD and 1450 AD there was relatively little occupation in the Limpopo Valley. There are some indications of the odd Great Zimbabwe culture being present in the area. Around 1450 AD, the Great Zimbabwe Empire collapsed and people gradually began to move westwards again. A new culture arose, known as the Khami culture and their capital was located near Bulawayo in present day Zimbabwe. These people gradually moved further west into Botswana and by 1650 AD they were well established, including the greater Mashatu area.

Mmamagwa was re-occupied at a later stage by other groups, such as the Sotho and Venda. This occupation took place in the 18th century and was due to events taking place further south. Venda and Sotho groups that had occupied lands in the south, fled northward as a result of war. This time of war, known as the Difecane, was as result of the aggressive actions of Chaka and his Zulu impis, as well as the plundering of Mmzilikazi and the Ndebele. Sotho and Venda groups fled into the Limpopo Valley and occupied cliff-tops, fortifying them against raiders. At Mmamagwa, much of the present stonewalling can be attributed to them. The walls were modified as defensive barriers, rather than boundary markers. The last inhabitants of Mmamagwa only left the area sometime in the 1940's. Evidence for such later occupation can be seen in the form the ruins of an old hunting lodge, situated on the top of a small hill close to the main site. There are also bits of glass, tins and other relatively modern material scattered around this site. Interestingly, the chief of the local Babirwa tribe, Kgosi Malema, was born close to the site and now lives at a nearby village called Molalatau. The local Member of Parliament, Mr. Maruatona, has informed us that his great-Grandmother was born on top of Mmamagwa in the 1890's. Information such as this is very useful to an archaeologist; as it provides some additional background to events that have occurred at the site that may not leave any physical evidence, or else confirm the interpretations of physical evidence found at a site.

There are many things to be seen today at Mmamagwa and one could spend days exploring the cliffs and gullies. It is possible to see numerous remains of old kraal or dwelling sites. All that remains of these areas are slightly raised mounds of grayish soil, often dotted with springhare burrows and covered with pottery and bone fragments. It is a fairly easy task to locate examples of Zhizo, K2 and Mapungubwe pottery. There are a number of dry stonewalls visible on top of Mmamagwa Hill. The various inhabitants have maintained and modified this dry stonewalling for the last 650 to 700 years. These walls had a number of functions, and were not only for defence. The lower walling or terracing was built to allow sections to be leveled off, so that people could build huts or plant a small patch of crops, like millet or sorghum. Other higher walls divided the cliff-top into distinct sections. Certain parts of the cliff-top were reserved for the sole use of the Chief, while others were strictly only for the sole use of women or for the sole use of men. These divisions were severely enforced and any transgression was seriously dealt with. The more recent modifications of the walls by the Sotho/Venda include loopholes. By the 18th century, contact with white traders had allowed various groups to obtain firearms and it is likely that the Sotho/Venda people at Mmamagwa did possess firearms of some sort.

To the west of Mmamagwa Hill are two very distinctive sandstone outcrops. The local people regard these outcrops as sacred sites. The site is known as Leeukop (Lion's Head) or Mapungubwe (Hill of Jackals) and was extensively excavated in the late 1970's. Up to 40 mud and clay structures were located, as well as low stonewalls. Thirteen burials were also discovered from two levels, one dated to about 1645 and the other to between 1881 to 1912. These occupants from either the Sotho or Venda

tribes used the site as a fort. It is also thought that the site was used at an earlier time for rainmaking ceremonies. At the same time as the excavations were being done at Leeukop, a preliminary investigation was being carried out at Mmamagwa Hill, but a formal excavation was never realized.

PROFILE:

Lloyd Gillespie was born in 1971 in Durban, South Africa. He grew up in Durban attending Kainon Primary School and completed high school at Westville Boy's High. After his matriculation in 1988 he spend a year studying at a University in Philadelphia (Pennsylvania - U.S.A.) on a sports and study scholarship. On his return to South Africa he attended S.A.M.S. (South African Medical Services) for his military training as a front line Operational Medic. Thereafter he attended Durban Westville University to commence a degree in Human Movement Studies (Sports Science).

Following university Lloyd moved to Cape Town where he managed various bulk handling storage facilities. It was not long before life in the city pushed him in the direction of his childhood dreams. He then attended a years course in field guiding / game ranging through Kruger National Park. Lloyd gained valuable experience as a game ranger and lodge manager whilst working in wilderness areas in South Africa. In August 1999, Lloyd moved to Botswana and took up the position of Operations Manager at Mashatu Game Reserve. His responsibilities include ranger training and co-ordination as well as guest activities, hosting and relief camp management.

Lloyd has had a keen interest in wildlife from an early age and has been an avid birder since the age of 14. His earliest and fondest childhood memories are of his grandfather nibbling on wild bird seed from his hand and saying this is how you talk to the birds and the animals. These stories set his imagination alive and is the basis for interest in wildlife.

It will be Lloyd's task to keep you, the reader, updated on what is happening in the bush at Mashatu. Join us on the "web" safari of a lifetime!

AN INTRODUCTION TO MASHATU GAME RESERVE

Mashatu Game Reserve comprises an area of diverse habitat types with a wide range of associated wildlife. The three major components or landscapes, as they are termed, consist of groups of habitats which possess a similar geology, macro-climate, flora and fauna, but which differ sufficiently to be considered as distinct units within the landscape.

Different habitats are characterised by changes in vegetation, topography, micro-climates etc, many of which are not easily discernible. By familiarising oneself with the different trees, one is able to distinguish the various habitats. Animals and birds prefer certain habitat types. Knowledge of different habitat types will lead to a better understanding of the wildlife associated with those habitats.

Three broad habitat types:

1.) Floodplains on alluvium:

Flat or undulating plains derived from river-borne soils occurring adjacent to large rivers within Mashatu Game Reserve e.g. Shashe, Limpopo, Motloutse and Majale Rivers.

2.) Colophospermum Mopane / Terminalia Prunoides rugged veld on Basalt:

The Northern and western sections of the Reserve. Soils derived from two basalt formations. Plateaux' and scarps between rivers e.g. Majale, Njwala, Nyaswe, Matabole and Pitsani.

3.) Karoo Sandstone

South-western parts of the Reserve. Scenic sandstone hills, cliffs and ridges, interspersed with wide, sandy valleys. Extremely diverse flora.

MAMMAL NEWS

It is summer again, the days lengthen, the temperature rises, clouds build anvil topped towers, animals move restlessly and the earth waits patiently for relief from above. It's the time of year for rain and with it comes change and a new lease on life for all forms.

IMPALA OFFSPRING:

In mid-November the first of the impala ewes had given birth to skinny, wobbly legged lambs. This year the births were on time and coincided with our first decent rainfall of 28mm. Interestingly, last year, the impala ewes delayed their lambing until January, when good rains had fallen.

DOMINANT MALE LION:

There have been common sightings of this male lion for two years now, and possibly he is nearing the end of his term as dominant male lion on Mashatu Game Reserve. His male cub offspring are starting to show development of a sparse mane. He keeps a watchful eye over them and at times has been seen chasing them, as he is surely aware that they could be competition to him in the future. It will be interesting to see whether he fathers any further offspring, and if so, whether they reach adulthood or not.

HYENA DEN:

A clan of hyenas has recently taken up den close to Mashatu Main Camp. There have been excellent daily sightings of the clan and the matriarch with her one cub. This hyena cub by nature is very inquisitive and finds the game drive vehicles fascinating, often stalking and sniffing them, before scurrying back to the safety of 'Mommy' and the den.

MASHATU BIRD NEWS

MASHATU MINI BIRD SURVEY:

Some exciting news for all you birders out there. Mashatu has just recently begun its own bird survey. This is how it works. Comprehensive bird checklists encompassing all possible birds found in the entire region are issued to all rangers. Main camp, Tent camp and Pete's Pond bird hide sightings are also recorded. These checklists are submitted on a monthly basis and the results published in our quarterly newsletter.

To assist this survey, quarterly Big Birding days are organised. A team of rangers are armed with a vehicle, binoc's, bird books and checklists. They set out from sunrise to mid-day to record as many species as possible. Look out for our current and future Big Birding Day results.

BLACK EAGLE UPDATE: (*Aquila verreauxii*)

Mashatu is blessed with the specific habitat needs of the black eagle. Towards the southern and western parts of the reserve, along major rivers, are enormous sandstone outcrops, home to rock hyrax and nesting sites for three resident pairs of black eagles. Since the early 1970's various nesting sites on these sandstone outcrops have been noted and monitored. During these past years to date many chicks have been successfully raised.

At present, the pair of black eagles nesting on a rock ledge near Mmamagwa Ruins have successfully raised a chick for this season. The chick is 4 months old and still dependent on its parents. The pair nesting on a rock ledge above the Motloutse River near the Mmamagwa Kgotla laid 2 eggs. Unfortunately it is suspected that the nests were raided by baboons or humans and the eggs eaten or removed.

It is unsure whether the pair nesting near the abseiling cliffs on the Limpopo River have successfully raised a chick this season.

MIGRANTS:

Welcome back birds!!!

It is summer again. Whip out the binoc's, dust off the bird books, check the checklists and prepare yourself - the migrants are back in camp.

An exciting time of the year for all birders. The onset of the first migrant. Who is it going to be? Who is going to win the race from north to south? This year the wahlberg's eagle (*Aquila wahlbergi*), an intra

-African migrant was the first to show face. A pair was seen mating high in an apple leaf tree (*Lonchocarpus capassa*) near the Majale river, close to camp in early August.

By mid October an air of expectancy overcame the twitchers at Main Camp. The waiting game had started for the bulk of the migrants to return. Great care was taken to keep all binoculars and birding equipment handy and ready for those first cuckoos, plumcoloured starlings, bee-eaters, rollers, shrikes, flycatchers, etc, etc.

Finally, the waiting game was over! Ranger Jo Mazebedi reported Eurasian bee-eaters near the ruins at the Motloutse river on the 19/10/2000. But it was not until the 25/10/2000 that the familiar call of the plumcoloured starling was heard at Main Camp. These were the first Main Camp migrants for the season, with seven beautiful males and four females all feeding on the fruits of the thorny cluster leaf (*Terminalia prunoides*). Next migrant to arrive was klaas's cuckoo, the first of the cuckoo's to arrive on the 27/10/2000, followed by great spotted and jacobin cuckoo on the 29/10/2000. The redchested, black and Diedericks' cuckoo's arrived together on the 31/10/2000.

Finally, the beautiful call of the woodland kingfisher rang out on the 9/11/2000. All the expected common migrants had returned by the 14/11/2000. A space of only 27 days between the arrival of the first and last recorded commonly seen migrants. Not too bad, considering the distance they have travelled. With the migrants safely back in camp, we can all relax now and enjoy the sounds and sights.

A NOTE ON MIGRANTS:

Of the 356 birds on the Mashatu Game Reserve bird checklist, it is interesting to note the following breeding and non-breeding Intra-African and Palaeartic migrants.

- 41 - Non-breeding Palaeartic Migrants
- 32 - Breeding Intra-African Migrants
- 3 - Non-breeding Intra-African migrants
- 76 - Total migrants to Mashatu Game Reserve

RARE BIRD SIGHTINGS:

Trumpeter hornbills (*Bycanistes bucinator*)

On the 10/10/2000 a guest by the name of Derrick Solomon, an experienced birder, had a rare sight of two trumpeter hornbills flying overhead near the Limpopo River. Looking at the distribution of this bird it does not occur exactly here but a little more to the east. Well done Derrick Solomon and thanks for the new addition to the Mashatu checklist.

Eurasian Golden oriole (*Oriolus oriolus*)

On the 2/11/2000 a confirmed sighting of a Eurasian golden oriole was seen near Elephant Valley look out point, flying from one shepherd's tree to the next. This Palaeartic migrant has been recorded only once or twice at Mashatu.

Little Bittern (*Ixobrychus minutus*)

On the 8/11/2000 a family of warthogs was eating the Kalahari water grass that grows in Main Camp's waterhole. Whilst feeding, they flushed what looked like a Bittern or Heron, which took flight awkwardly into a nearby mopane tree and disappeared. It was too brief of a sighting to consider it confirmed. It was not until the 13/11/2000 that a female little bittern was confirmed in the waterhole. She was standing motionless, just off the reed fringe, catching the afternoon sunlight. This little bittern, a pale arctic migrant is a first ever sighting for Mashatu and a new addition to the checklist.

RANGERS BIG BIRDING DAY RESULTS:

Jo, Senti, Paul and Jakes were Mashatu's rangers picked out of the hat for this quarterly Big Birding Day. A total of 138 species were identified in a seven hour period. Well done guys!

WATERHOLE FREQUENTS:

Saddlebilled Storks (*Ephippiorhynchus senegalensis*)

Crossing the Majale River close to camp one will often see a pair of saddlebilled storks standing, resting or feeding. On a regular basis this pair graces the Main Camp waterhole with their presence and makes excellent opportunities for both close up viewing and photography. This pair has successfully raised a

chick which is still wearing its dull immature plumage. Insert picture of male and female saddlebilled stork hunting fish and frogs and at the waterhole.

Greenbacked Heron (*Butorides striatus*)

The smallest of all the southern African herons. This shy aquatic species is often seen standing motionless for long periods, sometimes with its head and neck held horizontally or pointing downwards. They are most often seen when hunting fish, and frogs and have even have been noticed trying to catch redbilled quelea (*Quelea quelea*) from their reed hide outs.

Black Crake (*Amaurornis flavirostris*)

This pitch black bird is unmistakable. It has a bright yellow beak, blood red eyes and legs. It is a shy but adventurous bird, more often heard than seen. It darts out of the reed beds to snatch up its prey. Even the slightest disturbance causes it to run swiftly along the aquatic vegetation back to the safety of the reeds. It is often seen at the waterhole early morning and late afternoon.

GENERAL BIRDING NEWS:

TOTAL SPECIES COUNTS:

Checklists are filled out on a monthly basis at Tent Camp, Main Camp and Pete's Pond bird hide. These are bird sightings that are recorded only in the camp or at the hide and not anywhere else. Below are the total species counts for the last 3 months.

Included are Big Birding day and ranger reports.

AREA SPECIES COUNT

Tent Camp:	88
Main Camp:	112
Pete's Pond:	71
Ranger reports:	252
Big Birding Day results (30/11/2000):	140
Total species count (October -December 2000):	269

Monotonous Lark (*Mirafra passerina*)

Oh no!! Its that monotonous time of the year again.

As the name suggests the call of the monotonous lark is repeated over and over and over again. One wonders whether the word monotonous was derived from the lark or was a word before the lark was discovered. Which came first, monotonous or the lark? You have to hear it to believe it. It calls throughout the day and night and it is debatable whether this lark has time to catch a little 'shut-eye' or not. This lark is generally nomadic, a visitor, returning to Mashatu in summer.

Ground Hornbills (*Bucorvus leadbeateri*)

There have been some regular and excellent close up sightings of ground hornbills lately. It appears that there is only one pair of ground hornbills resident at Mashatu. This vulnerable bird is confined to game reserves where it is seen quite regularly. The young of this bird are dependent on the parents for food for up to one year. As has been previously recorded at Mashatu, the immature birds and sometimes adults fall prey to carnivores, like jackal. The search is on for their nesting site, which is a hole in a tree or rock. Check out our future editions for an update.

NEW ADDITIONS TO MASHATU'S BIRD CHECKLIST:

- Little bittern
- Eurasian golden oriole
- Trumpeter hornbill
- Freckled nightjar
- Blackchested prinia
- Black swift
- Yellowbilled egret
- Greater striped swallow
- Black flycatcher

It looks like it is time to update the Mashatu bird checklist again. This brings the total confirmed bird sightings to 365 species for Mashatu. Pretty good for an area of 30 000 hectares.

RANGERS MOST UNUSUAL SIGHTING

OCT-DEC 2000

Ranger John Modeme reports:

"On a recent afternoon drive I noticed a 1,5m long african rock python slithering in the short grass. A brown snake eagle perched nearby decided to make a meal of the python. This was not as easy as it looked. The python wrapped his body around the eagle. After a half an hour battle they were still tightly entangled, so we left them to their own fate."