

# THE CROCODILE POOLS OF THE WESTERN DIVISION, THE GAMBIA

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## INTRODUCTION

The Gambia lies on the West coast of Africa approximately 13° North of the equator. The country follows the course of the Gambia river deep into Senegal which surrounds it to the North, South and East. It has an Atlantic coast to the West. For administrative reasons the country is split into five divisions, and these are subdivided into districts.

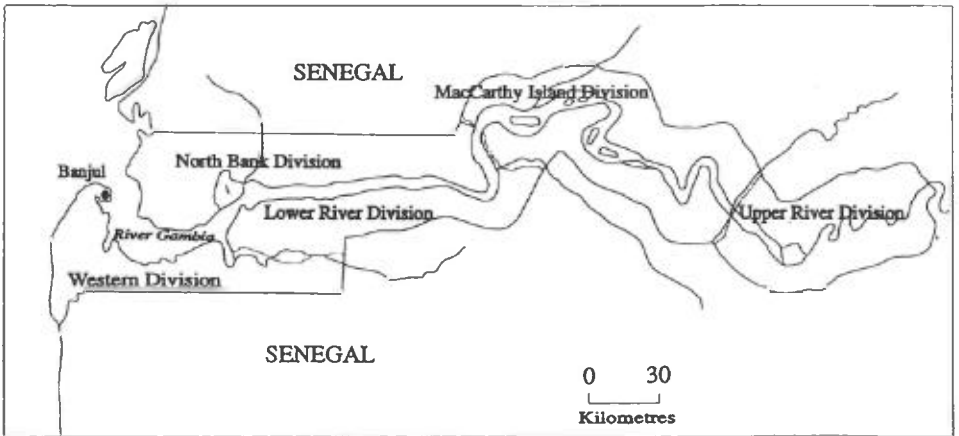


Fig. 1. The Gambia, administrative divisions

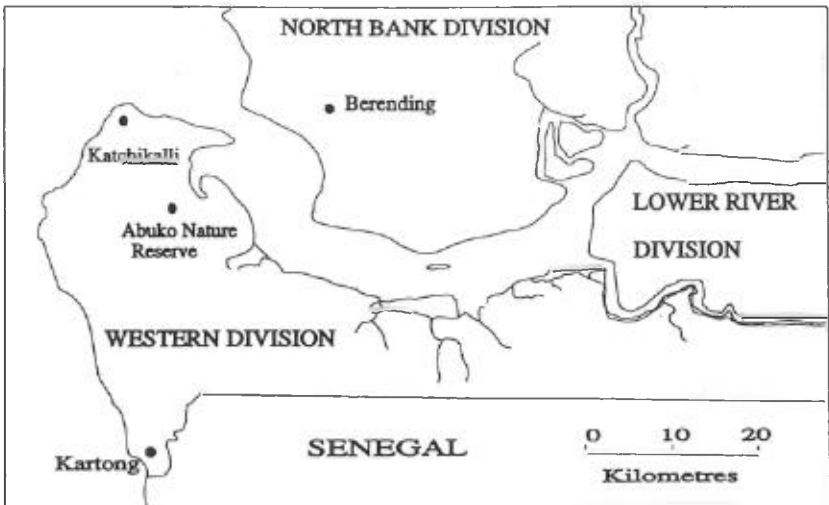


Fig. 2. The Crocodile Pools in Western Gambia

A tourist industry has become established since 1965, with currently over 120,000 visitors per year, mainly from North Western Europe. The majority of tourists visit during the dry season, September to March, but the country is now trying to develop an 'off season' tourist clientele as well. All the main tourist hotels are situated on the Atlantic coast, on the South side of the river, in the Western division, and the majority of excursions that the tourists take are within this administrative area.

Despite the large number of English speaking tourists and visitors, with the exception of the work on the Dwarf Crocodile (Anon, 1990, Jones, 1991), there has been very little published on the herpetofauna of the Gambia. We have been fortunate enough to visit the country during the last three years with groups of students; primarily to study mangrove biology. These visits have enabled us to make a brief study of the Nile Crocodiles that are present in the Western division and that are easily and safely viewable by visitors.

### CROCODILE SPECIES

Three species of crocodile are traditionally listed as occurring in the Gambia. (Edberg, 1982). These are the Nile Crocodile, *Crocodilus niloticus chamuses*, the Slender-snouted, Long-snouted, or Bottle-nosed Crocodile, *Crocodilus cataphractus cataphractus* and the West African Dwarf Crocodile, *Osteolaemus tetraspis tetraspis*.

The West African Dwarf Crocodile has been the subject of a conservation project in the Abuko nature reserve, and this project appears to be achieving some success, (Jones, 1991). This species aestivates in burrows between December and May so the majority of visitors are most unlikely to see them. It now seems doubtful that this species survives in the Gambia outside Abuko (Jones, 1991).

The Slender-snouted Crocodile has been stated to be present in the Gambia (Andersson, 1937), however the last authenticated record that we have been able to find relating to this species refers to them in the MacCarthy island division prior to 1931. Jones (1991) failed to find any during the extensive work done in Abuko and now considers them to be extinct in the Gambia.

The Nile Crocodile is still present at several sites in the Western Division and is said to breed throughout the rest of the country. It is one of the few remaining large animal species in the Gambia, and really the only one that it is possible to guarantee tourists a sight of.

### THE POOLS

There are three pools containing Nile Crocodiles that are easily accessible to visitors in the Western division, one of them is in the Abuko nature reserve, the other two are sacred pools.

Sacred crocodile pools are not uncommon in West Africa. Guggisberg (1972) refers to them in Nigeria and Liberia, and Hudson (1991) describes a pool at Warourou in Mali where the crocodiles are at least tolerated within very close proximity of the villagers because they are considered a 'good omen'. We have found only one brief mention of the Gambian sacred crocodile pools in the herpetological journals (Jones, 1991). These pools are described though, with varying degrees of inaccuracy, in several of the tourist guides.

**Abuko Nature Reserve 13° 05' N 160° 46' W**

According to the brochure Abuko is neither a nature reserve nor a zoo (Brewer, 1985). It is in fact a remnant of riverine forest, approximately 500 metres by 1,500 metres which has been fenced in as a water catchment area since 1916. For this

reason it has remained generally undisturbed whilst the surrounding countryside has been cleared for agricultural development. The potential of the site, as a reserve, was realised by the Brewer family in 1967, and as a result of their actions the government designated it as such almost immediately.

In the centre of the reserve is a large pool, approximately 350 metres by 35 metres wide at its broadest point. This pool was formed by damming the Lamin stream which runs through the reserve. There are a relatively large number of Nile Crocodiles in this pool, and during the dry season it is usually possible to see several of them basking at the side of the pool during daylight hours. In the three years that we have visited we have always seen between ten and twenty-two Nile crocodiles, ranging from half a metre to three and a half metres in length.

Visitors to the reserve pay an admission charge of 15 Dalasis (£1.20) during the tourist season and 10 D. (80p) outside the tourist season. For this they are allowed to walk around the two and a half kilometres of winding path. Where the path approaches the crocodile pool there is a fence, approximately one metre high to prevent crocodile/human interaction. Other than this there is no physical separation of wildlife and visitors except for the caged animals in the animal orphanage, some distance from the pool. The outside of the reserve now has a double fence, partly to reduce the risk of fire spreading into the reserve. This fence though is likely to prevent any crocodile migration into or out of the reserve.

There is much other herpetofauna in the reserve, Nile Monitors (*Varanus niloticus*) are particularly common, agamas are very common, as are skinks (*Mabuya* spp.). The toilets near the crocodile pool usually yield geckos and there are many varieties of snake present including venomous ones. The snakes are particularly secretive though and several of our students have complained about not seeing any! In the first eighteen years after the reserve opened there were over half a million visitors with no recorded incidents of snake bites. (Brewer, 1985).

**Katchikalli 13° 28' N 16° 40' W**

This is the 'sacred pool' that is the most accessible for tourists and therefore the one with the greatest number of European visitors. It is situated just to the North of the town of Bakau, and about one kilometre South of the coast at Cape St. Mary. The site has the edges of Bakau coming up to the Southern boundary and to the North there is an area of agricultural land leading up to the coast. To the East there is an area of woodland containing one very large Silk Cotton tree (*Ceiba pentandra*) in the centre. This species of tree is considered to be sacred in the Gambia, and this particular tree is considered to be particularly so because a famous holy man is said to have sat under it regularly. Although only occupying one or two hectares at most this woodland contains many birds, a troop of Green Monkeys (*Cercopithecus aethiops*) and numerous monitor lizards, which are frequently seen near the crocodile pool.

The pool itself is circular and about twenty-four metres in diameter; it is situated in a depression in the ground approximately two metres below ground level. The 'guides' say that it is seven metres deep in the middle. The depression has a retaining wall around it for 300° of the circle with a slope up to the woodland for the other 60°. Within the depression there is a one or two metre strip of land (depending upon water level) surrounding the pool. Visitors may climb down onto this strip to get a closer look at the crocodiles and to meet 'Charlie'. Until recently access to the pool was by climbing down a steel step ladder which was moved around according to where the crocodiles were. In July 1993 a set of concrete steps was completed at the North side of the pool.

The surface of the pool is completely covered by a very dense growth of Water Lettuce (*Pistia stratiotes*). This cover prevents an accurate count being made of the number of crocodiles present. The density of this plant also proves a hazard to hatchling crocodiles, and for this reason they are removed from the pool area and reared until they are almost sixty centimetres long before being reintroduced at about fourteen months of age.

Although the Water Lettuce prevents an accurate count being made of the number of crocodiles present the local 'guides' say that there are sixty. This would seem possible. In three consecutive years we have seen eighteen, twenty-three and sixteen respectively. These visits were all made during the hottest part of the day and during our stays several crocodiles were seen to enter the pool and some were seen to leave it. Clearly a pool of this size is not capable of supporting this number of crocodiles and there is much supplementary feeding. This is done using 'Bonga' fish, a cheap local marine fish. 'Bonga' appears to be the Mandinka name for *Ethmalosa fimbriata*, (Lesack, 1986).

One of the attractions of Katchikalli is 'Charlie'. He is a sixteen year old Nile crocodile who was 'hand reared' and as a result is very tame. Although he tolerates human physical contact he does not mix quite so well with other crocodiles. Normally the other crocodiles do not come within one metre of him. As a result of him tolerating human contact he has appeared in many visitors photographs. He has also appeared on British television, on John Wilsons' fishing programme on Channel Four. His presence and demeanour has permitted our students to examine a crocodile in much closer detail than they would be able to in the United Kingdom!

**Kartong 13° 05' N 16° 46' W**

This is the Southernmost sacred crocodile pool in the Gambia being less than five kilometres North of the border with Senegal. The pool is situated to the South West of the village in an area known as Folonko. It is approached by a short walk from the road. We visited it in the early afternoon when the crocodiles were all in the water and it was not possible to assess the numbers present. Only one was seen.

On the side of the pool to which the public have access there is a wire fence which averages about one and a quarter metres high. There is a gate for pedestrians through this, the gate normally being held closed by a loop of wire. Inside the gate on the Western side of the pool there is a sandy viewing area for visitors. To the East, behind the pool from the visitors viewpoint, there is a slope up to the surrounding woodland.

As with the pool at Katchikalli this one is about two metres below ground level and a retaining wall of concrete blocks has been built around most of the depression in which it is situated. On the visitors' access side there are steps down to the water. The pool itself is circular, about eleven metres in diameter, and, as at Katchikalli, the surface is totally covered with Water Lettuce.

In view of the distance from the tourist hotels (about forty-five kilometres) this pool clearly has few European visitors. We encountered none during our visit and the local children who walked from the edge of the town to the pool with us did not speak English, nor apparently any other European language. There was no attempt to charge us an admission fee, but we were required to remove our shoes before entering through the gate.

The third sacred pool in the Gambia is at Berending, some nine kilometres West of Barra, in the Niumi district of the North Bank Division. As yet we have been unable to visit this site.



Nile crocodile *Crocodylus niloticus*

photo by author

### THE ROLE OF SACRED POOLS

In recent times the commercial significance of the pool at Katchikalli has been clearly recognised. There is an admission charge of 10D. (80p) and there are stalls selling batik at either side of the entrance.

The pool at Kartong, because of its distance from the tourist hotels is unlikely ever to make much of an income from admission charges if they were imposed. Clearly both pools are of spiritual significance still to the local population. This seems to be independent of tribal origins; on our visit to Kartong the local children who accompanied us were between them speaking at least three different tribal languages (Barnaby, 1993). At Katchikalli the actual running of the pool is done by a family who are Mandinka, but with many Jola connections.

Faal (1991) describes the Jola as being the people who had been longest resident in the Gambia. For centuries they are said to have continued to hold the traditional African beliefs about the sacredness of the earth and the divine energy found in certain rocks and groves. Unlike most of the rest of the population of the Senegambia area the Jola were highly resistant to change or the influence of other ethnic groups, being the only sizeable population in the Gambia virtually untouched by Islam. A recent school textbook (Anon, 1992) states that some members of both the Serer and the Jola people will not eat the flesh of crocodiles because they believe that their ancestors were descended from a crocodile.

Local people who use the pools for spiritual assistance seem to do so for one, or more, of three main reasons.

Fertility is always the first suggested reason for seeking assistance if one asks local people why they visit the pools. It is widely held that a woman who has problems conceiving should come to the local pool and bathe in the water. She is not expected to bathe with the crocodiles. Screens are provided a little way away from the pool

behind which she can bathe with some modesty. At both Katchikalli and Kartong there are tin cans in evidence. These are clearly used to carry water for the purpose of bathing. If the lady subsequently becomes pregnant she is expected to bring the baby back to the pool to show it to the crocodiles to acknowledge her appreciation (Barnaby, 1991).

Wrestling is a national sport in the Gambia, it is keenly followed by most of the population and is popular with tourists too. Before a major contest a contestant may wish to ask for spiritual assistance and do so by washing at a crocodile pool. Although we have not yet investigated why, it appears that Kartong may have greater significance to wrestlers than Katchikalli.

Important business deals may also benefit from a visit to the crocodile pool before being concluded. Interestingly the guides and taxi-drivers never give any further details on this matter although willingly discussing fertility and wrestling!

The crocodiles seem to benefit from the existence of these pools; they are fed at Katchikalli, breed there and are assisted in rearing their young. Although crocodiles are reportedly still eaten in the Gambia (Jones, 1991) we have not found anybody in the Western division who admits to eating crocodile, or who, possibly more significantly, knows anybody who eats crocodile. Certainly the crocodiles within the sacred pools would appear to be at no risk of being killed for meat or skin.

It was reported to us that in 1992 Charlie had left the pool at Katchikalli and wandered into the town of Bakau. He was netted and carried back. It is not clear whether he was initially recognised as Charlie or if any crocodile would have been returned to the pool.

The effect of these pools on the wild crocodile population is probably minimal as far as Katchikalli is concerned because of the density of human population around the pool and its distance from totally wild populations. Yet there are reports of new crocodiles of two or more metres arriving in the pool during the rainy season. In addition to Charlie's walk into town the 'guides' at Katchikalli say that other crocodiles have left the pool and lived in the salt water Cape Creek one kilometre away for short periods of time. The situation at Kartong is possibly more conducive to regular interaction with wild crocodiles, the local human population density is much lower and there is no reason to suspect that there are not genuinely wild crocodiles in the area. These points clearly need much further research.

#### **FURTHER WORK**

It is hoped to visit the country again in 1994 when we will try to visit the crocodile pool at Berending in the North Bank division. Further researches into the origins and history of the pool at Katchikalli are required and we hope to continue our investigations in this area.

#### **ACKNOWLEDGEMENTS**

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