The Magnificent Bee-eaters

A short story, with photographs, featuring two overland journeys in 1968 from Ibadan, Nigeria, to the new Kainji Hydro-electric Dam area in western Nigeria. The first journey, in May, was just before and the second, in October, was soon after the closing of the Dam which was followed by the creation of Kainji Lake on the River Niger. includes photographs of the very last breeding season of the northern carmine bee-eater on Foge Island and refers to the first exhibit of this species at London Zoo.

by Bob Golding

Bee-eaters are some of the most beautiful birds on the planet and have been described as the supermodels of the bird world and birds of the sun. They make up a single family, Meropidae, and three genera, with most of the approximately 27 species placed in the genus Merops. Most species occur in Africa and Asia with a few also in Europe, Australia and New Guinea. They are known for their richly coloured plumage with colours that catch the human eye as they flutter and glide around, sometimes in very large colonies. Some species are wondrously multi-coloured, with hues and patterns difficult to describe adequately; they deserve simply to be gazed at and savoured as feasts for the eye. There are red-throated bee-eaters, white-fronted, purple-bearded, swallow-tailed bee-eaters; and of course there are carmine bee-eaters. On this and the next page are photographs of a few different species that give some idea of the striking colours of these birds. Superficially, bee-eaters have a somewhat elongated, streamlined appearance.

Little bee-eaters ***(Merops pusillus)***

Bohm's Bee-eater (*Merops boehmi*)

This is due to the long, downward-pointing bill at the head end, the slender body, and the long tail with elongated central tail feathers at the other end; they also tend to have longish, pointed wings which add to the somewhat delicate appearance so many of them have when in flight. Although they eat many forms of flying invertebrate, bee-eaters do seem to prefer bees and wasps, particularly honeybees. They can see small, flying prey

European bee-eater

Northern Northern carmine bee-eater (*Merops nubicus*)

European bee-eater (*Merops apiaster*)

Southern carmine bee-eater (*Merops nubicoides*)

Blue breasted bee-eater (*Merops variegatus*)

The photos of bee-eaters on this page were taken by others. All other photos in this short story were taken by Bob Golding.

from a considerable distance and, when hunting, often use an open perch from where they are able to see clearly around them and take off quickly and easily toward their prey. When they catch a bee, nearly always when in flight, they carry it back to the perch and smack it repeatedly against a branch or hard surface; they may also press it and rub it until it starts to break up. During this process the bird will often close its eyes as a protection against tiny droplets of venom that may splash around. It is only after the bee's venom sac has been disposed of, or the venom itself dispersed by the bird's actions, that the battered remains of the bee are swallowed.

Most species of bee-eater are gregarious and breed in colonies. They excavate burrows for their nests, often arranged closely together in a vertical cliff or a steep river bank. The little mosaic of bee-eaters on page 2 includes the northern carmine bee-eater (*Merops nubicus*), the species that was my principal interest during the two journeys I made from Ibadan in 1968. The background to these journeys was as follows.

In early 1968 a major new Nigerian Government development project, generally referred to as the Kainji Hydro-electric Dam project, was already underway on the River Niger, near Wawa in western Nigeria. At the completion of this huge project the following year, the new Kainji Lake would be 397,000 hectares (981,000 acres) in area; it would extend about 136 km upstream from the new dam and would be around 24 km across at its widest point. Foge Island (pron. 'Fowgee', hard g), a natural island lying between the two separate channels of the River Niger south of Agwarra *(see maps page 4)*, would be submerged although, at the time of my May 1968 visit, the dam had not been closed. The Borgu Game Reserve, bordered on the east by the new lake, would be open to tourists. The vegetation of the area was described as Guinean forest-savanna mosaic, a band of interlaced forest, savanna and grassland running east to west and dividing the tropical forests near the coast from the West Sudanian savanna of the interior *(see maps pages 3 and 4).*

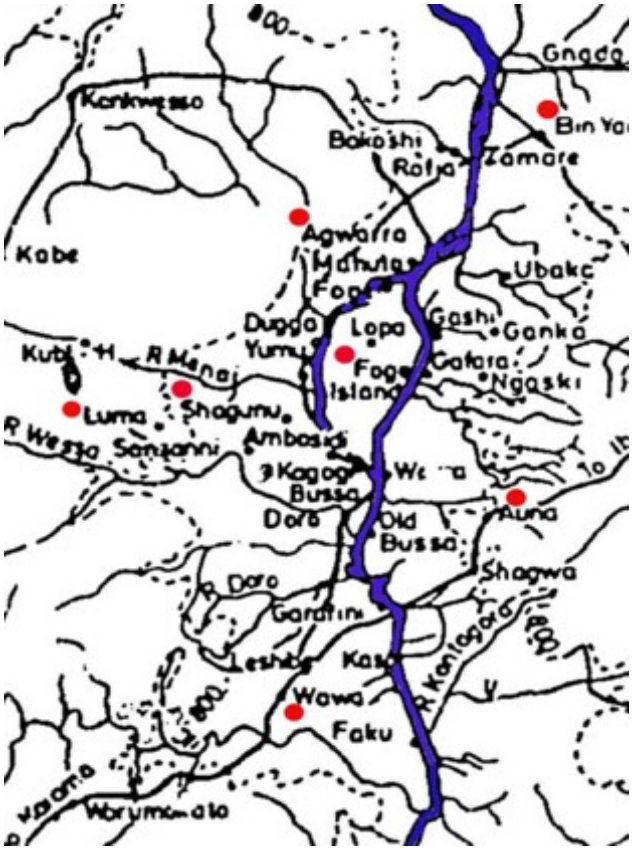
Showing the main road route (red dots) between Ibadan and Kainji Lake; also shows Abuja - the new Nigerian capital - and other major towns and cities.

The Kainji Hydroelectric Dam project involved the dispersal of around 50,000 people who had been living within the area about to be submerged. Most were being moved to newly constructed government resettlement villages near the new Kainji Lake, including the new town named New Bussa (*see map page 4*). Wildlife within the Reserve was projected to be 'abundant' and mammals would include hippos, baboons, roan antelope, duikers, kob, hyaenas and warthogs. I learned later, however, that human activity, including deforestation, burning, illegal grazing and fishing, created problems following the completion of the project in 1969.

The project was being implemented over a period of five years by a consortium of three Italian firms, involving 20,000 men of nine different nationalities.

I had been asked by a wildlife magazine to obtain some photographs of the Foge Island area before and after the closure of the new Kainji Dam, scheduled for August that year, 1968. If possible, the images were to feature the northern carmine bee-eater and the effects of the new Kainji Lake on the many breeding colonies of this bird in the area. I was pleased to take on this interesting photographic task and was curious to experience what it would be like to be there and observe, even briefly, an ancient ecosystem of plants and animals in the process of dying or changing fundamentally. There would, of course, be the huge new 'hi-tech' freshwater dam and lake for the generation of electricity that would improve the lives of countless people; also water for the the irrigation of crops, a major new fishing resource and a wonderful new National Park and Game Reserve for residents and foreign tourists. But would it all work out as we were being told it would? Reservations about aspects of the project had already been expressed in some quarters. In making such far-reaching changes to an exquisitely complex system of organisms, materials and processes, did the large, multi-faceted group of organisations and people driving the project really know what they were doing and what the effects on the area would be a hundred years from now?

I set off from Ibadan early that May morning in 1968 having decided to visit the Borgu Game Reserve on my way to Foge Island. The roads were an unpredictable mixture of recent and good and old and challenging and included some difficult stretches. After a



This older map shows the original Foge Island, south of Agwarra, and the original course (in blue) of the River Niger. Foge Island was submerged by the new Kainji Lake in 1968.

Kainji Lake today. Some of the original names shown on the old map left, eg. Shagunnu, Auna, Luma, are also shown above. The apparent duplications of some names, also location differences, are noted.

hard day's drive I arrived at New Bussa in the late afternoon, met up with some colleagues and also, by arrangement, met the Game Warden from Borgu Game Reserve.

I spent some of the following day in the Reserve with the Game Warden and saw several rather nervous hippos and an impressive range of other mammals. I confirmed to the Game Warden that my main objective was to gain access to, and photograph, a colony of carmine bee-eaters further north on Foge Island. He was most helpful and arranged for a canoe and two assistants to be available for my use for the next two days.

The next morning I drove to the agreed location and found the canoe and two canoeist helpers waiting for me. I soon found myself sitting in the canoe being paddled up and down the River Niger, a memorable experience. From the canoe I had a much improved view of Foge Island's river banks which, in many places, were perforated by numerous entrance holes to the breeding burrows of the carmine bee-eaters (*see photo page 6*). It was clear that many, perhaps most, of the burrows contained chicks. I got close enough to be able to see that the adult birds were carrying a variety of invertebrates as they alighted, one by one, on the steep river bank. Each waited briefly before entering its burrow and then disappeared quickly into the little pool of darkness at the entrance. It soon re-emerged and flew off again for more food. At what looked like a suitable point I asked the man paddling me around to set me ashore. I then stepped out and found somewhere to sit for a while, alone among the rough grasses that grew on Foge Island's flat meadows and scrubland.

As I sat there I was very much aware of the changes about to take place around me. I found it a thought provoking, even moving, experience to be alone in that remote place, on an island in the middle of one of Africa's great rivers, especially at that moment in time when the island was about to be submerged in the name of progress for mankind. I felt a lone observer, an audience of one, in a faraway, natural world theatre, watching the last show. Soon this small patch of the earth's surface would be gone for ever, at least in its present form.

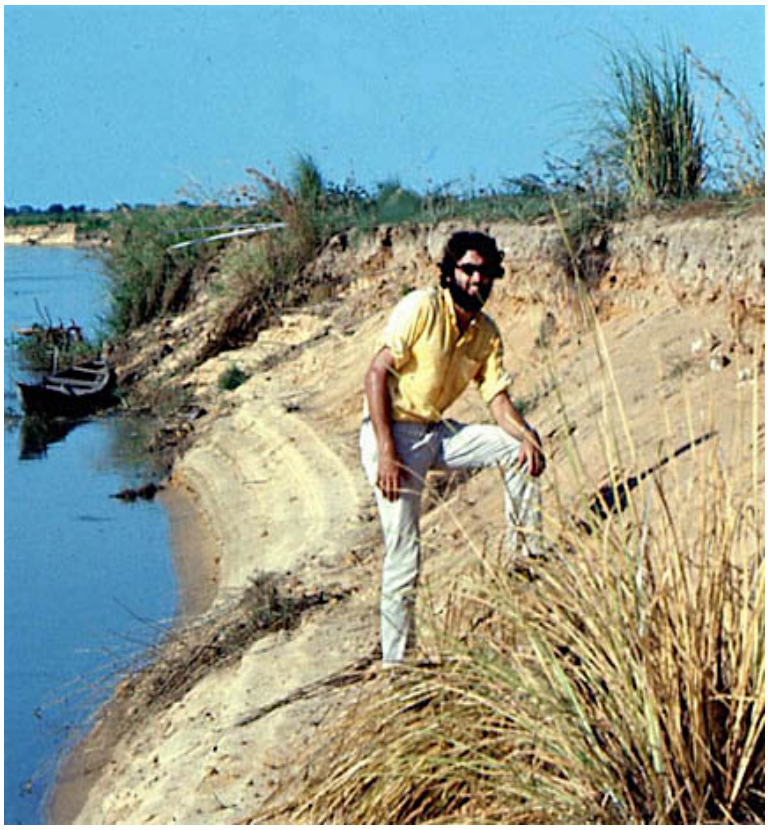
I shall always remember the hundreds of bee-eaters, their throaty calls and flutterings everywhere around me, the bright sunshine and swirling heat and dust, the River Niger on its amazing journey south from Timbuktu and the Sahara Desert down to the Atlantic Ocean, and those long evening shadows across the flatness of the island as the sun went down.

Evening time, a man and his canoe on the River Niger, looking from Foge Island. May 1968.

Entrance holes to the nest burrows of a breeding colony of northern carmine bee-eaters in a bank of the River Niger on Foge Island. In the short time I was there it was difficult to be sure how many burrows were in use. May 1968.

During the two days or so that I spent on Foge Island I met only two other groups of people. On the first occasion I suddenly noticed two men, each with a long stick, walking through the grass nearby *(see photo page 7)*. They approached me when they saw me and the three of us stood there, uncertain, smiling, wanting to communicate but not knowing how to. We had no common spoken language and could only smile and nod and gesticulate at each other. They eventually walked away, back across the island. Who they were, where they had come from and where they were going I knew not. After they left, though, I realised that we had in fact communicated a few basic messages to each other, and positive ones at that - you are welcome, I'm happy to see you, have a nice day - by using our facial expressions like all good higher primates. Our exchanges were good-natured and brightened my day - and maybe theirs, too.

Bank of River Niger on Foge Island showing the adult northern carmine bee-eaters returning with food for their chicks. May 1968.



I am taking a look at the bee-eater burrows in the bank of the River Niger on Foge Island. The entrance holes were usually in the top two metres or so of soil. May 1968.

There was also the occasion when a group of women with young children appeared, some carrying babies on their backs. They stopped and chattered at me incomprehensibly and then walked off into the landscape (*see photo page 8*).

On the third morning of my visit to Foge Island, that May 1968, I packed my various belongings into my car, thanked the Game Warden's two men who had helped me move around by canoe and set out on my return journey to Ibadan and my work at the Zoological Garden. I had been able to take all the photographs I needed, including some of the bee-eaters and their nesting sites. Little did I know at that point that there was more to come and that I was to return there later that year. I shall explain shortly.

I shall now move the clock forward two months, to July 1968. July was the month that marked the start of my leave each year from my job in Nigeria. I shall digress briefly here and describe this a little more fully; friends and others have often asked me about my annual leave and how it was that I took a holiday in the UK every year.

These two men were walking across Foge Island. From where, to where? I didn't know, couldn't ask. We just smiled… May 1968.

My contract as an employee of the University of Ibadan entitled me to two months' paid leave each year in my country of origin, the UK. The same general terms and conditions applied to most of the expatriate employees of the University of Ibadan. However, we spent our leave periods in many different ways. Leave could be a holiday, a hoot, a desperately needed break, a welcome reunion with a loved one, a period of study or a prelude to a divorce. For many of us our periods of leave became very special, a period when exceptional things happened, usually good but sometimes bad. I spent much of each leave in Bristol, my home town, where I had an apartment in the leafy and well-

behaved suburb of Henleaze. For me it was simple - I went on leave for a break, a rest, to eat all things nice, see old friends, for a complete change.

I started my leave each year by flying from Lagos to London Heathrow. There I hired a car and drove west along the M4 motorway to Bristol. When I arrived at the front door of my apartment, laden with suitcases, I was usually feeling very tired. I stood outside the front door of my apartment for a few moments, drew breath, found the door key, thanked the Good Lord for absolutely everything, opened the door and entered what was to me a miniature paradise. I switched on my TV , watched the Test Match cricket, ate delicious fish and chips from a shop just around the corner, went shopping in a local supermarket that seemed permanently submerged beneath a tsunami of amazing foods I hadn't even heard of, lay down on the sofa and went to sleep. I eventually woke up and repeated the whole thing over again, regardless of the time of day or night. It was a wonderful opportunity to relax and rejuvenate. After a few weeks of rejoicing in a world where everything worked, I felt re-charged and absolutely ready to go back to work again.

A small group of women appeared, two or three of them with babies like this one (see it?). Soon they all walked away across Foge Island. The half calabash, or gourd, on her head probably contained milk. May 1968.

During my absence on leave many of the zoo staff back in Ibadan wrote to me to say hello, to update me on any notable events in the Zoo or to ask me to take back the odd item or two for them from the UK. After a few days back in Bristol, a steady trickle of blue air mail letters from the zoo staff began to appear through my letter box. The news about every-day events back in the Zoo was usually good, sometimes worrying and sometimes

These hippos in the Borgu Game Reserve were rather nervous when people were near, presumably because they had been little exposed to tourists. May 1968.

amusing; it reminded me of a world far away from my quiet apartment in suburban Bristol, surrounded as I was by my neighbours' neat gardens full of roses, perfect green lawns and garden ponds full of gently meandering goldfish.

I remember a letter telling me about a large, but tame and harmless, West African ground hornbill, a bird that for years had roamed freely around the zoo among the visitors. It described how, one day, the hornbill had removed a young child's toy doll from a zoo visitor's push chair with its large bill . The child had apparently been asleep. The hornbill immediately ran off with the toy doll to the other side of the Zoo and hid somewhere. The baby's mother was very upset and was left shouting and distraught. The doll could not be found, but the hornbill soon reappeared, minus the doll, fluttering its long eyelashes and looking totally innocent. I could just picture the scene as I read the letter. And another one: one night, driver ants managed to bridge the water-filled channel that encircled, and protected, a building containing cages of white laboratory rats that we bred as food for some of the snakes. These ferocious insects were discovered in the building in the morning. They had fortunately not been able to gain access to the rat cages but had dismembered, sliced up and carried away to their underground nests hundreds of caged grasshoppers that were being kept there as food for various zoo animals the next morning. And this: one morning the zoo's camel, having been taken as usual by a keeper to browse for half an hour on its favourite green leaves just outside the Zoo, suddenly, for no apparent reason, broke away, took off at speed towards a nearby residential area and disappeared. The keeper called for help, other keepers rushed from all directions and there followed temporary chaos in that part of Africa. The camel was eventually recaptured on someone's small farm where it had consumed a bucket of corn cobs and some freshly picked mangos.

I valued these letters and news from my staff in Nigeria but, for the first couple of weeks or so of my leave, I refused to be distracted from my single-minded pursuit of happiness.

This was what awaited me when I returned to the Foge Island / Shagunnu area in October 1968 - a large, still-rising lake was in the process of transforming the landscape. Kainji Lake was taking shape - was being born - as I watched. The dam gates had been closed on 2nd August, about two and a half months earlier. These wading birds had abandoned their tree top nests and eggs and were fluttering around in the remaining branches, their disorientation obvious. October 1968.

During my leave I made a point of visiting a number of good zoos in the UK or Europe or perhaps the US; I thus maintained relationships with particular zoo staff, whether animal keepers, gardeners, veterinarians, curators or directors. I always enjoyed our discussions as they enabled me to keep in touch with the latest thinking or experiences on this zoo-related topic or that. I visited London Zoo in Regent's Park that year, 1968, just two months or so after my visit to Foge Island in Nigeria, and found myself having a conversation with one of the bird staff. I described to him the breeding colonies of carmine bee-eaters I had seen and the breeding sites about to be submerged beneath the new Kainji Lake. He expressed interest in acquiring a small number of these birds for a possible new exhibit in the zoo's bird house. He pointed out that London Zoo had never before exhibited this species and said he would discuss the

Above: nests of long-tailed shags (*Phalacrocorax africanus*) in the rising Kainji Lake. The nests were constructed and eggs laid earlier that season but had since been abandoned due to the rising water.

Right: shag nest and eggs, abandoned.

October 1968.

matter with his colleagues and contact me with further comments after my return to Nigeria from leave. I promised to give the matter some thought and drove back to Bristol.

I returned to Nigeria at the end of my leave period in September as usual. There was much going on in the Zoological Garden at that time. Among other things, I was working on the design of a new ape house with water moat enclosure barriers for the zoo's gorillas and chimpanzees and this task was still in active and detailed progress. However, having given London Zoo's continuing interest in a carmine bee-eater exhibit further thought, I decided to try to help them acquire some birds for this. I was in any case due to return to the Wawa / Kainji Lake area in October to take further photographs of the rising lake and its effects. At that time I would try to make contact with the various Nigerian officials whose job it was to process documents requesting approval for the capture and/or export of Nigerian wild animals and plants.

I thus returned to Wawa and New Bussa - the new towns at the southern end of Lake Kainji - the following month, October 1968. I was fortunate to be able to travel there with

Above: this tree top was also just above the still-rising lake. From left, long-tailed shag (*Phalacrocorax africanus)*, great white heron *(Casmerodius albus),* African darter *(Anhinga anhinga)*. These birds had also abandoned their newly constructed nests and eggs.

Right: great white heron nest and eggs, abandoned.

October 1968.

two colleagues who also had interests involving the wild life of the area. Because of their links with certain authorities there we were able to borrow a fast motor boat; this enabled us to move easily and quickly across parts of the new lake and visit some of the tree top nesting sites used until recently by various species of wading bird but were now abandoned *(see photos).* By then Foge Island was largely submerged. Some carmine bee-eaters seemed to have retreated to certain locations around the perimeter of the new lake which, at that time, was still expanding. I only had time to observe a few of those locations. The birds appeared to be reorganising into separate groups of varying size, possibly on a transient basis as part of a restructuring process of some kind. I left with the clear impression that, using mist nets, it would be relatively straightforward to capture

a small number of bee-eaters at one of those locations provided that the birds were still there when I returned.

The photographs on these pages, taken by me in October 1968, provide an indication of the huge changes in the appearance of the area brought about by the creation of Kainji Lake. There are, of course, many sources that can supply further information on the Kainji Dam project.

During this visit to the Kainji area in October 1968, I was able to make useful contacts and work out a practical plan for capturing a few bee-eaters for London Zoo. It was not until the following year, however, that I was able to return to Kainji. A friend and colleague came with me and our aim was to find a location as quickly as possible where there was a congregation of bee-eaters of some form. I wasn't sure if we might find a long-established breeding site or if we might discover a potential new breeding site, perhaps being established subsequent to the new lake having reached its final level. With some help from the contacts I had made on my previous visit, we very soon found an acceptable established site. Although the bee-eater breeding season hadn't yet commenced, many birds were circling around a river bank containing old burrows and often flew very low over the ground at that point.

Very early the next morning we erected three large mist nets and captured around ten birds well before midday. We placed the birds in a number of specially made containers, packed everything into our overland vehicle and drove back to Ibadan as quickly as we could. I wanted to get back there without delay so that we could deal quickly with what would probably be the difficult matter of feeding the birds, or rather of persuading them to feed, possibly involving a variety of foods and feeding methods. The basis of my approach was that the bee-eaters, being insectivorous and feeding only on winged invertebrates which they catch while in flight, would be very unlikely to pick up inanimate food of any form lying in a feeding dish or on the ground. I had no doubt that some trial and error would be involved in getting the birds onto substitute foods.

The bee-eaters took several days to adjust to a new feeding regime, but by then were taking a mixture of freshly netted flying invertebrates released into their aviary, together with chopped up grasshoppers mixed with foods manufactured especially for insectivorous birds.

On the late evening of 6th of June 1969, by arrangement with London Zoo, we gently netted five of the bee-eaters in their aviary and placed them in a travelling box. They were then driven overnight to Lagos airport, their travel documents processed, and placed on an airliner destined for London the following morning, the 7th of June. At London Heathrow they were collected by staff of London Zoo.

During my annual leave a few weeks later I visited the bird house at the Zoo and saw the five bee-eaters in the new indoor aviary constructed for them. The birds looked in good condition and made a most attractive and educational public exhibit. I reminded myself that this was the first time that *Merops nubicus* had ever been exhibited at London Zoo.

During recent communications with London Zoo (March 2017), they kindly sent me a copy of their records for the five bee-eaters as well as information on their longevity. What I had

not known previously was that the bee-eaters had done so well there. Three of them lived at London Zoo for over five years, one of them for nearly six years!

London Zoo's records of their five carmine bee-eaters from Nigeria:-

Having spoken to our animal registrar she ha

Species		Sex
Carmine bee eater	*Merops nubicus*	1.0
Carmine bee eater	*Merops nubicus*	1.0
Carmine bee eater	*Merops nubicus*	0.1
Carmine bee eater	*Merops nubicus*	0.1
Carmine bee eater	*Merops nubicus*	0.1

Date in	Date out	Reason	Length in collection
07/06/1969	08/03/1970	Died	8m 30d
07/06/1969	06/05/1975	Died	5y 10m 28d
07/06/1969	25/05/1971	Died	1y 11m 17d
07/06/1969	19/11/1974	Died	5y 5m 13d
07/06/1969	07/12/1974	Died	5y 6m 1d

I hope this helps

Kind regards
Luke Sharp

Supporter Services Coordinator
ZSL Whipsnade Zoo

Reports on the northern carmine bee-eater (*Merops nubicus)* point out that this species has a very large range and that, despite the probability that the population is declining, the rate of decline is slow. Although the population has not been quantified, the species is designated by IUCN as Least Concern (April 2017).

Although my visits to the Kainji Dam area in 1986 arose originally because of a request to take photographs of the area before and after Foge Island had been submerged by Kainji

Lake, I found what was happening there interesting yet disconcerting. I learned fairly recently (2017) that a new and massive plan to upgrade the Kainji Dam complex is being considered. I am told that the prime reasons for this are to increase its hydroelectric energy-generating capacity for a much increased human population and that there is also a need to increase water supplies for farmers needing to irrigate more farmland and keep more livestock. The implications of this are no doubt causing further concern in some quarters, despite the stated benefits for the people of that area of Nigeria.

This is not the place to enlarge further on these often complex, often political, matters. What I feel does arise, however, and what is relevant here, is the business of informing and educating members of the Nigerian public about animals, Nigerian wildlife and the natural world generally. A park such as Kainji Lake National Park or a zoo such as the Zoological Garden at the University of Ibadan, are ideally placed to provide such a service to the visiting public. I do hope that the authorities at Kainji Lake have, or will, set up an education centre of some kind for their visitors.

I know from my 16 years' experience at the University of Ibadan Zoo that there is still a great deal of untapped interest in animals and related matters among the Nigerian general public. For example, while I was in post there we upgraded the animal exhibits, constructed new ones and at one time were involved with a weekly TV programme in which various animal species were presented to school children in the TV studio. The result was a steady increase in zoo visitor numbers annually from around 35,000 in 1963 to nearly a quarter of a million in 1979; the Zoo became the most visited public attraction of any kind in Nigeria.

In closing I wish the present Director and staff at the University of Ibadan Zoological Garden continued success with introducing some of Nigeria's wildlife to their visitors and with stimulating an interest in the natural world.

Bob Golding.