Abstract

The African forest elephant, whose populations have been listed as being vulnerable by the International Union for Conservation of Nature (IUCN) and which is already locally extinct in many localities across southwestern Nigeria, represents a unique but fast disappearing component of the forest ecosystem. This mammal also, for its sheer size and extraordinary influence on the environment, and because of its interactions with humans, occupies a special position in Yoruba culture and philosophy. Recently, researchers from the Natural History Museum, Obafemi Awolowo University, carried out a faunal, floral, and cultural inventory in order to evaluate the tourism potential of Idanre town, discovered the buried remains of an elephant. Here, we present a preliminary report of our analysis of these relics, and discuss implications of the find for the distribution and conservation of elephants in southwestern Nigeria. We also highlight the role and imagery of elephants in the cultural life of the Yoruba people, and make recommendations concerning the elephant find that will boost the tourism potential of Idanre.

Introduction

Idanre is a town set between looming hills. It is about 20 km southwest of Akure, the capital of Ondo State of Nigeria (7°08‘N, 5°08‘E) (Figure 1). It occupies “a total land space of 99.4 square kilometers” (Akinbola 1989). The town is divided into two: the ancient town known as Ufe-Oke or Oke-Idanre, set on the highest point in the town, and the second or modern town known as Odo-Ode or simply called Idanre, at the foot of the hills and situated within these rocky hills that adorn the city and provide a defensive wall round it (Figure 2). As stated by one of the high chiefs in the town, Chief (Dr.) Akinde (personal communication May 24, 2007), “the location of this town prevents robberies as there is only one entrance and one exit”. Apart from providing a good security for the town, these rocky hills provide good scenery for tourists willing to visit the town. However, the ancient town Ufe-Oke was abandoned sometimes between 1928 when the first group moved down to the present Alade town, and 1933, when the last group moved finally to the present Odo-Ode site. The old site still plays host to people during the famous annual Orosun festival and to many tourists that troop to the town on a daily basis.

Idanre has a rich natural and cultural heritage. Its elevated landscape, which harbours a unique biodiversity, and the traditions and customs of its people, who historically lived uphill known as Ufe-Oke but now reside at the foot of the mountains, offer great potential for tourism. Between the 14th and 17th of June and 19th and 22nd of November 2007 a joint team of all departments (Archaeology/Anthropology, Botany, Entomology, Geology, Paleontology and Zoology) in the Natural History Museum of Obafemi Awolowo University, Ile-Ife, Nigeria (NHM-OAU) were at the ancient town to conduct an inventory in order to describe faunal, floral and cultural diversity within the area. During the course of this project, strange rock-like outcrops jutting slightly out of the surface of an unpaved road caught the attention of members of the research team en route to their hotel. From what initially resembled a small outcrop of stones, a molar tooth and then other skeletal material were exposed that were identified as belonging to an elephant (Mammalia: Proboscidea). This find, in con-
Figure 1. Map of modern Idanre (Odo-Ode) town.

Figure 2. Aerial view of modern Idanre (Odo-Ode) town set within rocky hills.
junction with other anthropological materials that were recovered from the site, brings yet another interesting dimension to the work the NHM-OAU is carrying out in Idanre: the unearthing of natural and cultural diversity from ancient times.

The objectives of this preliminary report are to furnish a description of recovered elephant remains from the site in terms of taxonomic identity, number of individuals and stage of physical maturity. In addition, to describe anthropological material also recovered from the site. Finally, to draw inferences and discuss findings in light of elephant distribution and conservation across Nigeria, and the role these animals play in Yoruba tradition and culture.

Materials and methods

The elephant remains were discovered at Odole sector of Idanre town. The site lies in the middle of an unpaved street, where trampling by passing human and vehicular traffic and seasonal grading of the road led some of the skeletal material to become partly exposed (Figures 3 and 4). This trampling has also caused some of the bones to become, to a certain extent, disintegrated.

A rescue excavation was carried out, then cleaning, sorting, quantification and measurement of the skeletal material for identification were done following protocols described in Chaplin (1971) for studying bones from archeological sites. The area found to contain buried skeletal material was marked and cordoned off. Bones and archeological objects of interest were rescued from the scatters of the elephant remains. Smaller fragments were extracted from surrounding soil using a sieve. Recovered bone parts were compared with documented collections from the NHM-OAU for identification. Inferences were also made from relevant literature (Johnson and Buss 1965; Laws 1966). Also, using a pair of callipers and a measuring tape, dimensions were recorded from bones where they helped in providing information concerning the stature of the specimen. Recovered bones that could be recognized were sorted according to type, and numbers of each bone-type recorded. The frequency of bone types was used to infer the minimum number of individual animals present in the site.

Figure 3. Unpaved road where the find was discovered.
Figure 4. Traces of buried skeletal material.

Figure 5. Elephant skull from NHM-OAU with which cranial material from Idanre were compared.
Figure 6. An elephant molar protruding from the soil - one of the “strange stones” that attracted the authors to the site.

Figure 7. Lozenge-shaped enamel ridges on the molars that characterize *Loxodonta africana*, the African elephant.
Figure 8. Cowry recovered from the site.

Figure 9. A potsherd fragment recovered from the site.
Results and Discussion

Examination of skeletal material from the site, and comparison with collections in the Natural History Museum, Obafemi Awolowo University (Figure 5), reveals that they belong to a single mature specimen of the African forest elephant, *Loxodonta africana cyclotis*. Enamel ridges on the grinding surface of the molars display the lozenge-shaped pattern that is typical of the African elephant (Figures 6 and 7). This pattern is uniquely different from that of other species such as the Asian elephant (*Elephas maximus*) and mammoth (*Mammuthus primigenius*) in which it consists largely of serrated flattened ovals (Brown 2007). Appearing only two at a time in the jaw, six molars erupt, grow in size and become weathered consecutively until they disappear from the mouth of an elephant through its lifetime. Various researchers have attempted to develop a scheme where the age of a specimen can be inferred from the size and stage of development of its molar teeth (Johnson and Buss 1965; Laws 1966). Our inability to retrieve a complete jaw with all its constituent molars from the site hampered our efforts in this direction. However, some of the dental material that were in relatively good condition could be identified, such as the molar in Figure 6, which, from the number (4) and orientation of its lamellae, enable it to be recognized as an anteriorly positioned molar. The extent of wear on this tooth, which is much advanced, along with its width and other dimensions that could be obtained from of the skull, which fall in the same range as that of adult specimens in the NHM-OAU collections (Table 2), lead us to believe that this animal was a fully physically grown and sexually mature specimen. As excavation continues, recovery of critical parts of the skeleton such as the pelvis will enable us make inference concerning other aspects of the animal such as its sex.

According to Douglas-Hamilton (1989), between 1970 and 1989, half of the elephants in Africa, perhaps 700,000 individuals, were killed. Happold in 1987 stated that most elephant herds in Nigeria had disappeared due to hunting and habitat alteration, and forest elephants were rarely encountered west of the site.

### Table 1. Zoological and archeological material recovered from the site.

<table>
<thead>
<tr>
<th>Artifacts</th>
<th>Type of specimens</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zoological material</td>
<td>Skulls</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Rows of molar teeth</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Individual molar teeth</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Unidentified bone fragments</td>
<td>16</td>
</tr>
<tr>
<td>Anthropological material</td>
<td>Potsherd fragments</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Cowries</td>
<td>1</td>
</tr>
</tbody>
</table>

### Table 2. Measurements (in centimeters) from exposed parts of the Idanre skull and an adult specimen from the NHM-OAU collection.

<table>
<thead>
<tr>
<th></th>
<th>Idanre specimen</th>
<th>NHM-OAU specimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greatest width of upper molar row</td>
<td>5.0</td>
<td>4.8</td>
</tr>
<tr>
<td>Greatest length of upper molar row</td>
<td>14.9</td>
<td>15.3</td>
</tr>
<tr>
<td>Greatest width between upper molar rows</td>
<td>13.4</td>
<td>12.80</td>
</tr>
<tr>
<td>Greatest width between zygomatic arches</td>
<td>53.0</td>
<td>47.2</td>
</tr>
</tbody>
</table>
of the Niger River. Blanc et al. (2003) also stated that little is known of Nigerian elephants prior to 1900, but during the 20th century many herds were either reduced in numbers or lost completely. Maps published in the reports of both Happold (1987) and Blanc et al. (2003) show that at least by 1987, elephants had already become locally extinct in the Idanre area. This has led us to conclude that current specimen recovered in this study existed before that time.

Another important aspect of our findings was the fact that the tusks of the animal in our study were missing. According to a recent report (ETIS 2002), Nigeria has one of the poorest records in the fight against the illicit international ivory trade, and ranks amongst the lowest on the law enforcement scale. Stephenson et al. (2007) mentioned other threats that face elephants across their range, such as poaching for meat, the loss, deterioration and fragmentation of the habitat, and various forms of human-elephant conflict (HEC). These threats should be controlled where there still may be elephants present in Nigeria, particularly in the southwestern zone of the country, where the site of our discovery is located.

A cowry and potsherd fragments were anthropological material also retrieved from the site (Figures 7 and 8). Isotope dating of this material will contribute to more precise knowledge about the time of existence of the elephant specimen. These cultural artifacts also provide some indication of the importance and role elephants must have had in Idanre historical life. The Yorubas from south western Nigeria have always revered elephants culturally, as can be seen from an Ijala poem composed in honour of this animal:

**He breathes gracefully and with dignity.**
**He walks gracefully and with dignity.**
**He is distinguished by his bulky tail.**
**To tie him to a stake is impossible.**
**The Oba who will tie him so is still to reign.**

**In the jungle, as well as in the bush,**
**He makes a fire to warm himself and feels at home.**
**The treading of a single elephant**
**Makes all the forest trees both big and small**
**To shake from their top to their very roots.**
**His is ne’er the shame of suffering hunger**
**In his forest home; for he wards that off**

By letting loose his anger on the forest trees,
And thus to them he proudly shifts the shame.
On one hand he pulls down with his powerful trunk
An Apa tree, and on the other hand
He tears off, from their girthy, parent stem,
Rough, brawny branches of an Oro tree.
As for banana trees, it’s from the roots
He pulls them up and then consumes their leaves.

A forest-trail made by an elephant
Is clearer far than that which can be made
By two hundred sturdy men using hoes.
Any creepers’ tangle which scheme and say
That, they will stop the movement of an elephant,
As he goes on his way to Alo Hill,
Will fail and instead go with him to Alo Hill.
With them the elephant will climb up Alo Hill
And as he climbs he’ll trumpet loud in song.
It’s not of the elephant that one may say,
I caught a glimpse of something go past me.
If one sees an elephant, one must say,
Pointblank, I saw an elephant go by.

Which beast is there within the forest bounds
That we may say is greater than the elephant?
It’s when the elephant has already gone
That we can boldly leave our hiding place
And our broad-bladed cutlass wave
in mock attack.
Who so brave as to unsheathe his matchet
In the full view of a forest elephant?
The offspring of an elephant can ne’er
Turn out in semblance of a young Ira.
It is as mighty as his parents are
That a baby elephant grows up to be.

Undoubtedly the elephant is blest
With natural honour ‘mong the forest beasts.
E’en when in crouching posture it’s asleep,
The elephant appears to be a hill of flesh.
The surface middle of an elephant’s head
Is a heavy load too great for a child,
Hence, if it’s given to a child to bear
From the forest to the hunter’s house in town,
It will not get home, for it will be left
In the forest by the child when fatigued
By the oppressive load.
His lower jaw is always to be placed
As sacrifice at the shrine of the Iron God.
When through relentless, hunters’ pestering
An elephant collapsing has succumbed,
Some members of the hunting crew at once
Run to the town and there proclaim the news,
Crying, Right on top the Amilala Hill
There’s the carcass of an elephant.
Ere they dissect their victim elephant,
Ceremonies there are which hunters must perform.
For these, they use one of these animals:
A bush pig, a stag, or an antelope,
Killed by the falling of an elephant.

Believe me, the carcass of an elephant
Can’t at all be made to lie on its back
To facilitate the task of cutting it.
Not until we’ve fully dismember’d it
Can we see whichever smaller animals
The elephant has crashed upon and killed.
While standing on one spot, the elephant
Can eat the barks and leaves of trees, and the bushes
Which are away from him. But he cannot
Assail the shrubs and bushes which are under him.
It’s these which prick his nostrils when he bends
With a view to making a meal of them.

Which man is there so bold as to await
An elephant that’s in an angry mood
And therefore has his tusk uplifted high?
Who can wait and tackle such an elephant?
If on your head you have a load of flesh
Belonging to a conquered elephant,
It is tabooed for you to try to unearth
For food a cricket in its hole.
One who sees an elephant, in the market place,
Cut up and placed on trays for piecemeal sale,
Misses the dignity of the elephant,
His honour and his awe.
- Babalola (1954)

From the above Ijala (hunter’s poem), the reverence of elephant is highlighted. The animal is taken in high esteem and accorded the statues of the power of Yoruba king in the forest. Therefore, the death of a king is recorded as if an elephant is dead.

‘Ajanaku sun bi oke, erin subu erin ko lee didie’ (Ajanaku slept like a hill, the elephant fall and cannot stand up). Therefore, when a king is dead, the song below is sung and the above poem is recited.

The elephant has fled in the face of the hunter.
The mighty one has fallen in the forest and can no longer rise.
The elephant has fallen; the elephant is gone.
The elephant has fallen; the elephant is gone.
Ajanaku the mighty one has fallen and can no longer rise.
Ajanaku has fallen and cannot climb the mountain.

Our father has indeed departed.
Well done, son of Olora, who walks majestically.
- From Abiodun et al. (1994)

The killing of an elephant attracts rituals as indicated in the poem quoted above by Babalola 1954:

‘Ceremonies there are which hunters must perform.
For these, they use one of these animals:
A bush pig, a stag, or an antelope,
Killed by the falling of an elephant’.

It is Yoruba believe that when an elephant is killed a sacrifice must be offered, failure of which may lead to the death of the hunter or apparently inability to catch another game again. Therefore, a sacrifice is offered before dissecting the animal and important part of it is taken and kept in the shrine of Ogun, the god of iron or hunter.

The elephant find described in this study also presents a significant dimension to the tourism potentials that lie within Idanre. Continued investigations by the NHM-OAU research team will result in a comprehensive exposition on the implications and opportunities that concern this find and other aspects of Idanre’s natural and cultural diversity. It is recommended that the discovered skeleton be mounted and preserved in an on-site museum in order to educate the visiting public on the need for protection and conservation of the African forest elephant.

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References

Abiodun R., H. J. Drewal and J. Pemberton

Akinbola, B. A.
1989  *Antiquities of Idanre, Idanre/Ifedore Local Government area, Ondo State*. Essay to the Department of Archaeology, Obafemi Awolowo University, Ile-Ife.

Babalola, E. A.


Brown, G

Chaplin, E. C.

Douglas-Hamilton, I.

ETIS

Happold, D. C. D.

Johnson O. W. and I. O. Buss

Laws, R. M.

Stephenson, P. J.