

### Lake Ossa: a new Iron Age site in the Cameroonian Littoral Province

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## Introduction

Archaeological data relevant to the study of the littoral cameroonian border is scarce (Omi et al. 1984; Kadomura et al. 1986). For the southern and western cameroonian forest area, previous results demonstrate that human settlement can be divided in three major, but discontinuous, phases. The Late Stone Age is represented in the western grassfields by three rockshelters (Shum Laka, Abeke and Mbi crater), where microlithic artifacts are dated between 9000 and 5500 yr BP (Asombang 1988; de Maret 1992). Near Yaoundé, artifacts from Obobogo have been dated to 6020 BP. Generally the first evidence of sedentism is found with the Neolithic (presence of polished implements, potsherds, millstones and *Elaeis guinensis* or *Canarium schweinfurthii* nuts). Changes from the Later Stone Age to the Neolithic and Iron Age seems to be related to Bantu migrations (David 1980; Philipson 1984; Vansina 1984; Wanner 1984). In Cameroon, the Neolithic (de Maret 1985, 1992) is found at Shum Laka and Abeke, and is dated between 7000 and 6000 years B.P. At Obobogo, it is dated between 3700 and 2600 years B.P. Near Yaoundé, the beginning of the Neolithic dates to the fourth millenium. Even at this time, humans may have had a real impact on the environment, due to activities such as hunting and cultivation. In Central Atlantic Africa, the first evidence of iron smelting gets younger the further south one goes. In Cameroon, dates ave been obtained for the northern and southern sector of Yaoundé (Obobogo, Ndindan, Mfomakap and Okolo in Essomba 1985) and are centered around 2500-2100 B.P. (Elouga 1985; Mbida 1992). This brief review shows that nothing exists about the Atlantic littoral area. The results presented here are the first for this time period and geographical area.

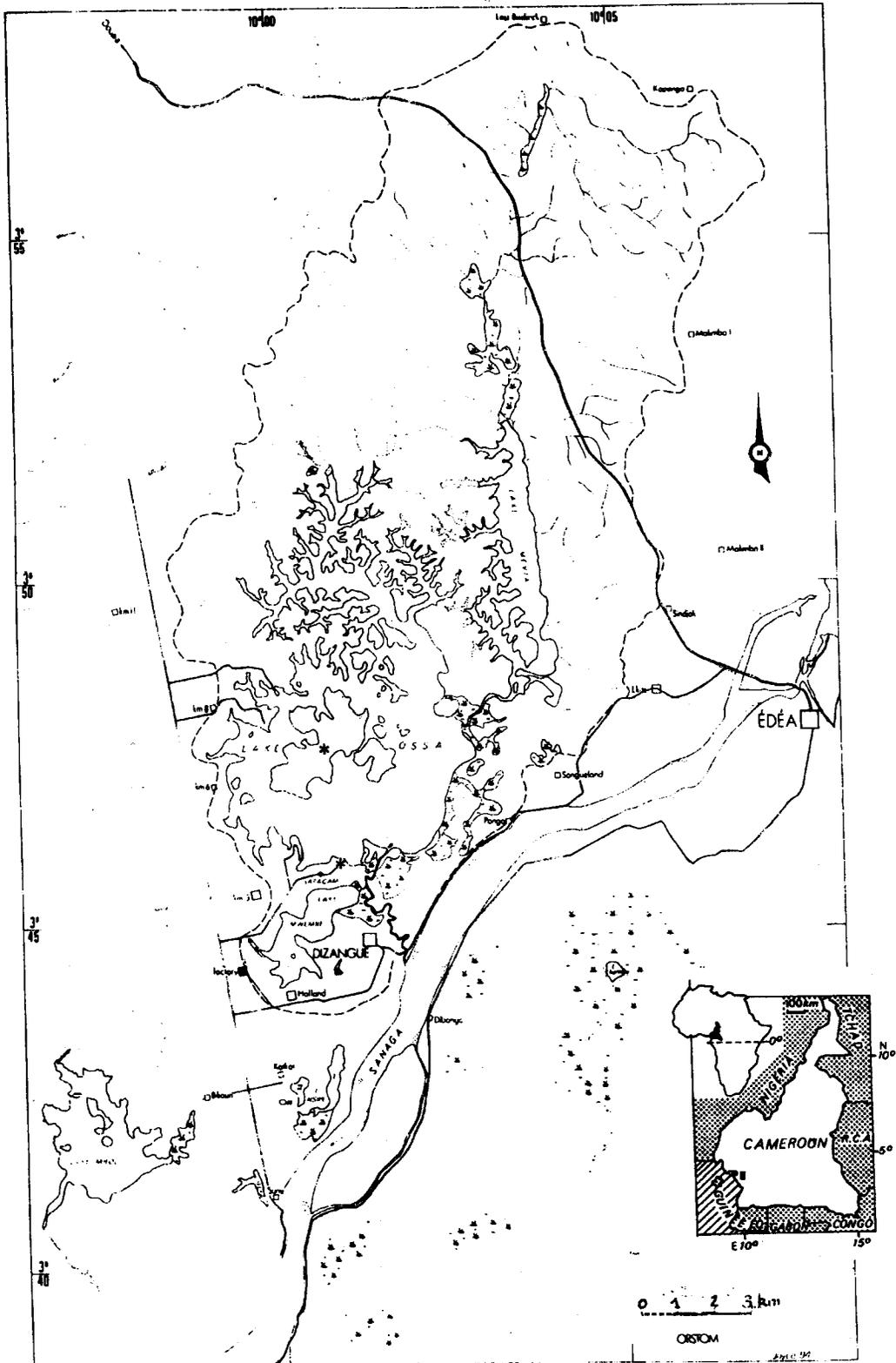
## Study area location

Lake Ossa (31 km<sup>2</sup>, with a catchment basin of 245 km<sup>2</sup>) lies about 40 km east of the Atlantic coast of the Guinean Gulf, extending from 3° 45.7' to 3° 53' latitude N and from 9° 9' to 10° 4.2' longitude E (Figure 1). It is a littoral lowland located in a hilly landscape area with a flat top, characterized by "half-orange" shape culminating at an average altitude of 80 m, with rather strong slopes, where lacustrine depressions are enclosed (Wirmann 1992). Two Bakoko speaking people, the Yakalak and the Ndonga, inhabit the area today. They settled in this area during the late 18th century (Moubandje oral communication). Linguistically affiliated to the Equatorial Bantu language group, they belong to the Bantu branch, and are part of the Bénoué-Congo family, of the Niger-Congo-Kordofan phylum (Greenberg 1963; Guthrie 1967-1970). During our fieldwork, two archeological sites were discovered at an altitude of about 70-80 m. The first one is located in the upper part of the bigger island of Lake Ossa, and the second one at the top of the stretch of earth separating Lakes Ossa and Mevia. At both sites the soils belong to yellow sandy or sandy argillaceous ferrallitic type, issued from sedimentary rocks. On the island the vegetation corresponds to the Atlantic littoral facies of the lowland evergreen moist forest known as Biafrean District Forest (Letouzey 1968, 1985). For the second site, anthropogenic disturbance is strongly marked: the area is now occupied by the administrative and residential center from the SAFA CAM plantation, by oil palms and by a small aerodrome.

## Artifacts

Two test excavations of 9 and 11 m<sup>2</sup> respectively have been carried out to date. Pottery and stone artifacts occur in the two sites, but their distribution is not identical. In both areas archaeological remains are composed mainly of potsherds (Table I). At the big island site, all the artifacts were encountered over 40 cm deep, beyond which the soil is sterile. The one lithic implement corresponds to a well preserved and unstained micaschiste triangular piece; despite the fact that there is no micaschiste outcrop in the catchment basin. Evidence of tool shaping is absent. Faunal remains consist of two gastropod shells which might be recent since they have a very fresh appearance. Most of the potsherds

Figure 1: Map of Lake Ossa catchment basin and location of the surveyed areas (black stars).



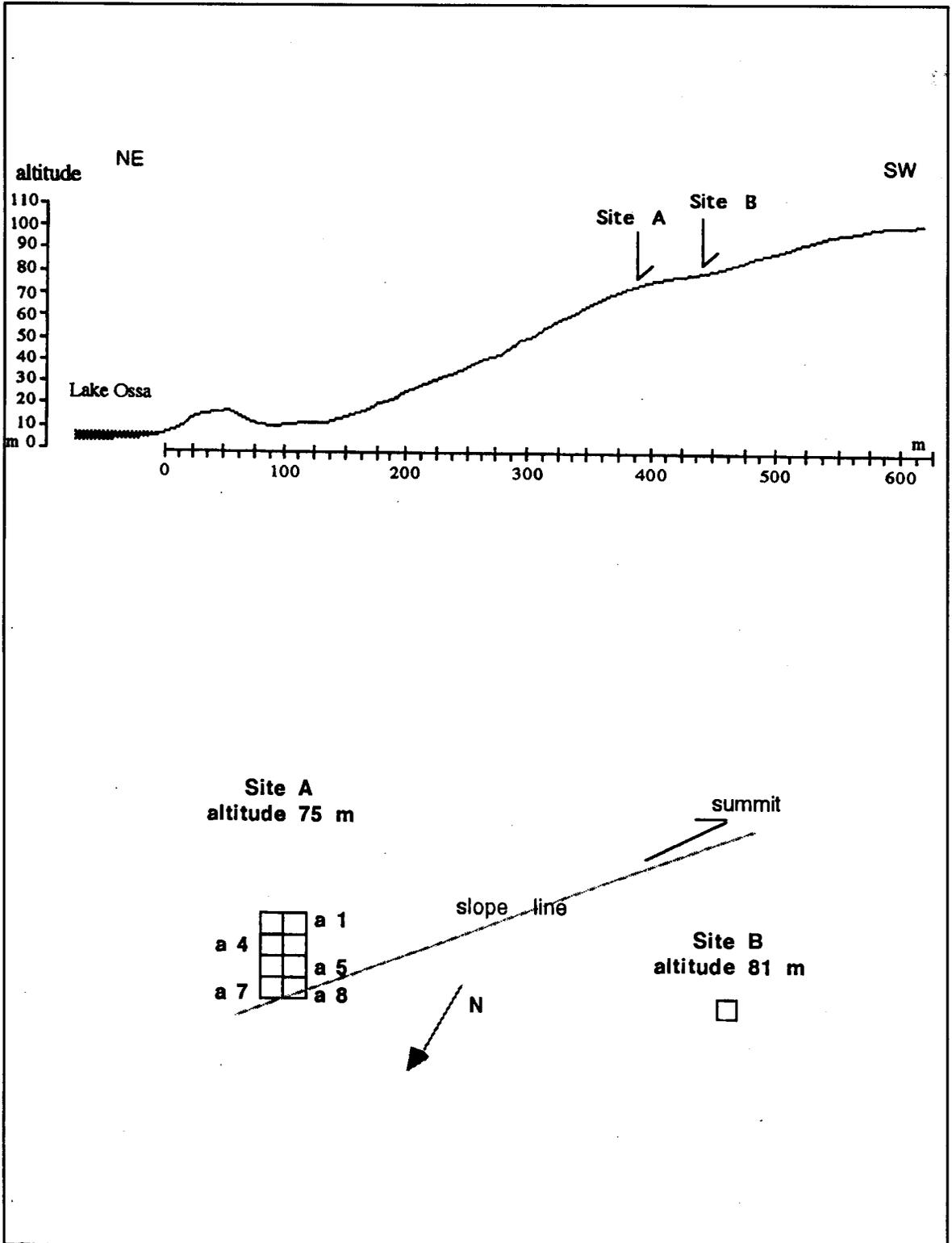
**Table I:** Number of remains from both sites

	Potsherds	Slag	Fauna	Lithic	Charcoal
<b>Big Island</b>	33		2		abundant
surface (area B)	5				
surface (area A)	28			1	
<b>SAFA CAM</b>	274	28	4	16	abundant
surface	55				
excavation	219				

**Table II:** Radiocarbon sequence from Lake Ossa Excavations (all on charcoal)

Sample	Soil level (cm.)	Lab number	Conventional C14 age B.P.	Calibrated date (2 sigma)
<b>Big Island</b>				
square A8	25-35	OBDY 1107	280 ± 60	A.D. 1471-1954
Square A5	0-15	OBDY 1443	700 ± 50	A.D. 1245-1395
	15-30	OBDY 1444	580 ± 40	A.D. 1296-1433
	30-40	OBDY 1446	440 ± 60	A.D. 1407-1635
<b>SAFA CAM</b>				
square A3	40-60	OBDY 1487	510 ± 50	A.D. 1320-1467
square A2	60-80	OBDY 1488	420 ± 50	A.D. 1535-1635

Figure 2: Location of sites A and B from the big island and plan of excavated squares. The squares are 1m<sup>2</sup>



were not decorated, except for two where incised line traces are recognizable. The paste of all is unrefined and contains millimetrical grains of quartz, but one cannot assert that they correspond to intentional temper selection. The extreme fragmentation of sherds collected in this place hinders their refitting or classification on the base of etic criteria. As pottery industry has declined in the area, it is untimely to propose an emic classification. More excavation is necessary. Charcoal taken between the surface and 40 cm deep, provide ages ranging from 1280 to 1670 A.D. About 60 fragments collected between 25 and 35 cm below the soil surface (square 8, site A), all correspond to the liana *Salacia cf. pynformis* (determination by R. Dechamps, Tervuren); they yield an age of  $280 \pm 40$  BP (1520 to 1666 A.D., Table II). On inquiry, nowadays the inhabitants do not use this liana as fire matenal. As the only ethnobotanical study dealing with wood species and their use for specific domestic utilization in Cameroon (Essomba 1991) does not mention this liana, a ritual purpose is possible.

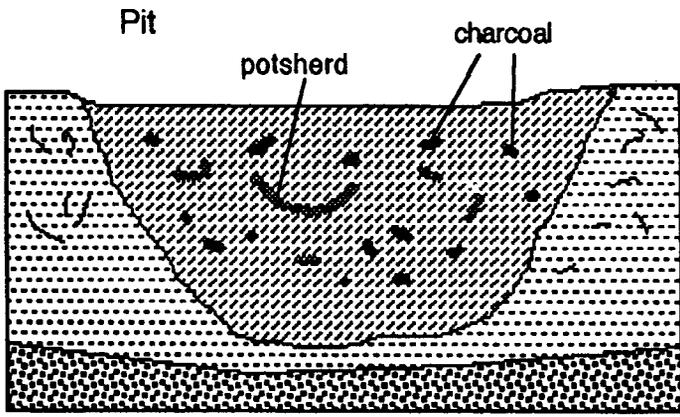
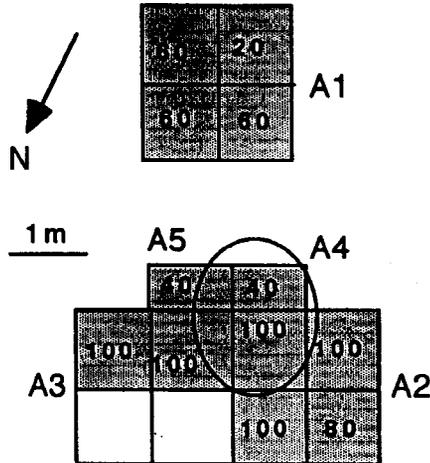
For the SAFA CAM area, all the archaeological artifacts were collected in the infilling of a pit 2 m in diameter and 50 cm deep (Figure 2). They were associated on the surface with iron slag. The absence of food debris implies that ordinary domestic activities were not being carried out in this place. Assuming that the soil conditions were favorable to the conservation of such remains, this place perhaps was use as a camp for hunters or a place of seclusion for religious ritual. Charcoal collected from 40-60 cm and 60-80 cm below the soil surface produced dates of  $510 \pm 50$  BP and  $420 \pm 50$  BP respectively (1405-1421 and 1438-1611 A.D., Table II). These ages are consistent with those obtained for the big island site and show that both occupations were contemporary.

The lithics consist of one sub-rectangular quartz piece (6 x 3 cm) associated with remains of ferralitic cuirass which is partly carbonized; it probably corresponds to pieces of a cooking or iron reduction place. Two of them present one smooth face, but it is difficult to identify the tool shaping if they are domestic implements (polisher, whetstone fragment or grindstone fragment?). The recovered termitary fragments are cylindrical, their diameter varies between 4 and 15 cm. Because they are smoky, one can assume that they were used as hearth

supports like similar fragments which are still used today by the Tikar and Baveuk people from the central department of Mbam and Kim. At present there is no evidence to indicate whether the iron slags recovered at this place were manufactured in the region, or they were instead obtained from elsewhere. What is clear, however, is that knowledge of iron working had reached the inhabitants. X-ray diffraction and FTIR analysis of some potsherds from both sites don't reveal presence of any distinctive component in the paste. Quartz is predominant, with traces of feldspar and microcline, and organic matter is not detected.

The characteristics of the potsherds recovered in the SAFA site can be summarized as follows (Figure 4). Of the 274 fragments, 61 (22.3%) are decorated with single or multiple motifs. The recognizable shapes are represented by 4 base fragments, 27 rims and 2 sherds with a perforation, which corresponds probably to the attachment of prehension ties (the border of the perforation is very sharp and clean, without traces of additive paste). The bases present a flattened or an hemispherical shape, their thickness varying from 11 to 27 mm. Most of the necks are angular. The rims are either in external or internal position in reference to the symmetrical axis of the vessel. Four of them are characterized by external and lateral thickening, this pattern being similar to pottery recovered near Yaoundé and its surroundings (Atangana 1988; Mbida 1992). The other one is flattened. For two fragments, lines on the internal wan are observed, and this is the first mention of such a peculiar morphologic feature for cameroonian ceramics (Figure 3). Three lip types are represented: flattened, rounded and lightly grooved. These types are similar to pottery excavated in the regions of Obobogo, Okolo, Mfomakap and Elig Kono in central Cameroon (Claes 1985; Atangana 1988, Elouga 1991). All potsherds share similar technology and fabric for surface treatments. Internal and external surfaces are polished but only a few fragments present a pinkish gray engobe (5YR 6/2 to 5YR 7/2 in the Munsell soil color system). To date, this is the second occurrence of slip coating on pottery discovered in south Cameroon, the other one corresponding to a remain recovered by A. Froment at Campo in 1993 (unpublished data). Therefore this pattern seems to be developed only in the littoral region. The two techniques used for decoration are stamping, the most frequent, and incision. It is on

**Figure 3:** SAFA site. Plan of excavated squares; the numbers indicate depth (in cm) of excavation, the ellipse showing the pit superficial trace. Below a section drawing of soil profile and the south side from squares A2/A3.



Silty-argillaceous soil with rootlets  
color : 10 YR 5/3,5  
to 10 YR 4/3

Silty-argillaceous soil : 10 YR 4/4

scale :  1 metre

Figure 4: Examples of pottery decoration. a: rice grain motif with inner lines, b: herring with rice grain motif, c: "pineapple skin" motif, d: fish-bone design.

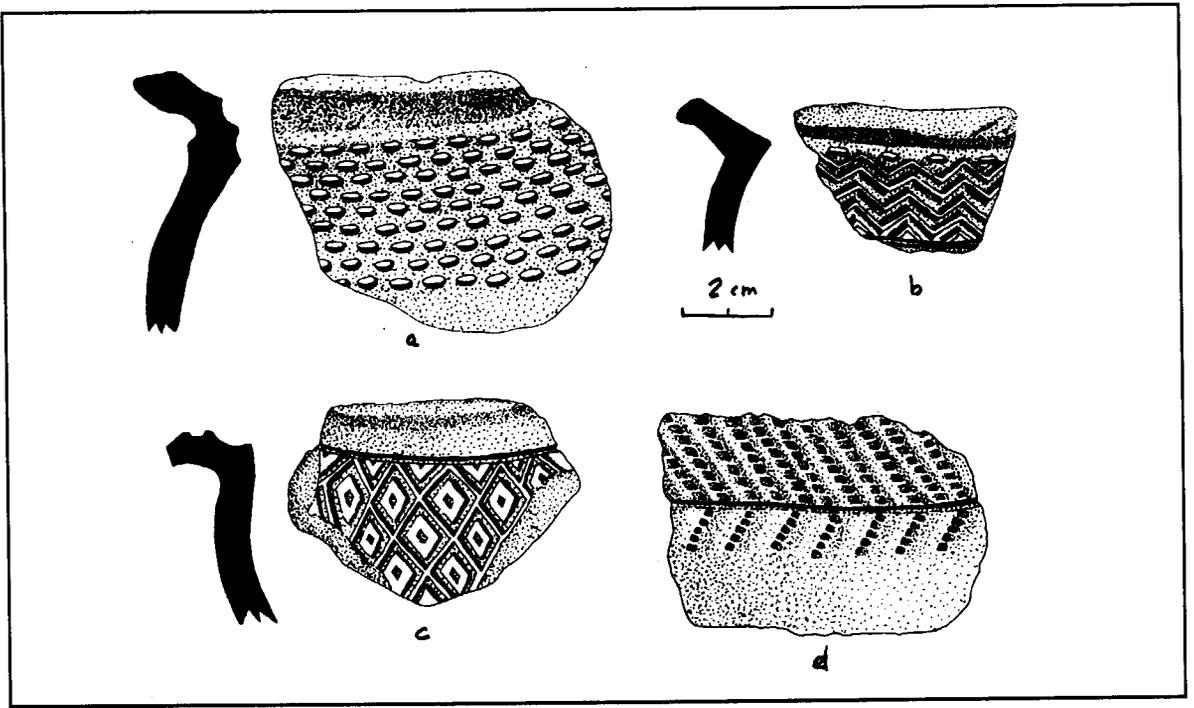
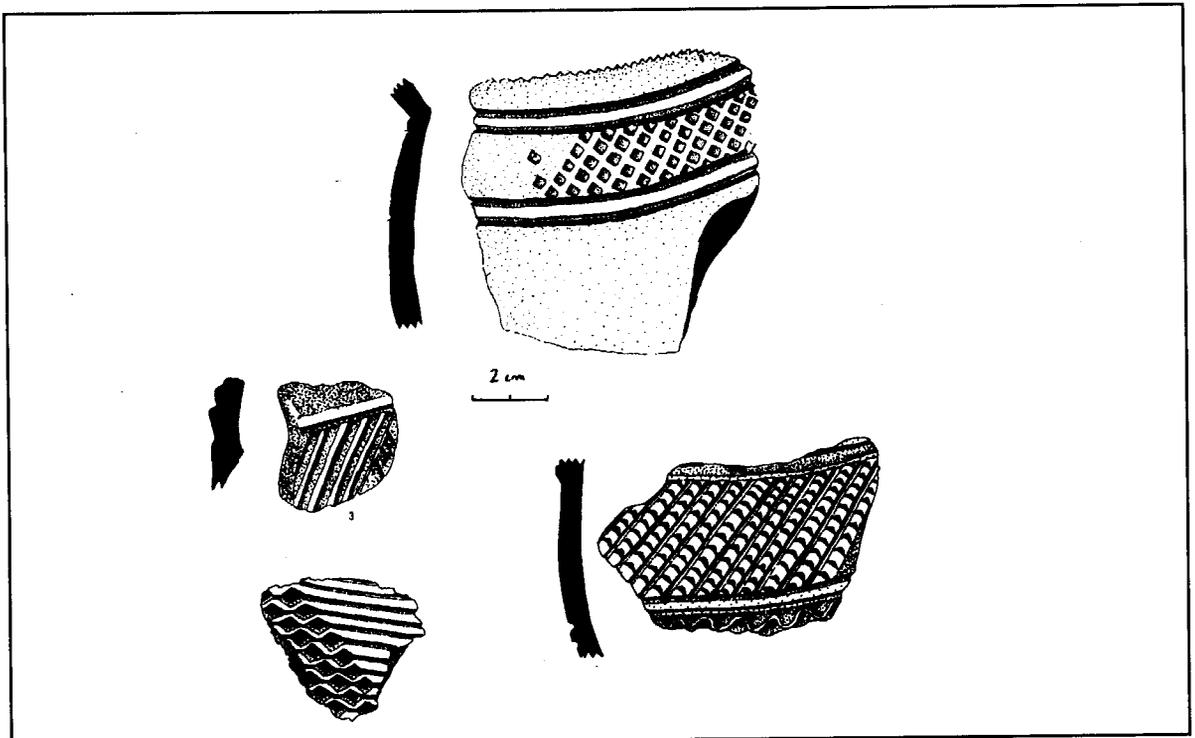


Figure 5: Examples of potsherds decorated with multiple motifs.



**Table III:** Percentage frequency of excavated pottery from archaeological sites in central Cameroon

Motifs	Ossa	Nditam	Avoh	Elig Kono	Mfomakap	Nguila
Rice grain	14.3					
Zigzag	6.3					
Diamond	4.8					10
Wavy line	4.8	5.5			7.7	
Squared	30.2			12.6		
Indented	1.6	1.8	3	6.5	1.6	
Dotted	1.6		1.1			
Multi-lined	30.2					
Single lined	4.8	44.4	13.5	59	69.5	
Fish-bone	1.6	7.4	3.4	11.4	14.5	20
Herring		9.2	0.8			

the shoulder that the decorative motifs are the most abundant. The variety of designs includes single or multiple lines, punctuations, rice grain relief, relief with hollow and square, wavy lines, diamond-shaped, with rafter, fish bone (Figure 4).

Previous studies made on excavated material from different Cameroonian sites (Table III) show the same variety of designs. According to the percent of occurrences of each motif, the only one which seems the most common is the line design, encountered in Mfomakap, Avoh and Elig Kono. A comparison between Lake Ossa and these other cameroonian areas shows that diamond-shape reliefs are known as "pineapple skin". In the Vouté cultural area, the wavy lines are present in the Mfomakap ceramic remains, while the rice grain relief is only recognized for the present day pottery from the Bamessing Province (northwestern Cameroon). There seems to be a specific earthenware tradition in the Ossa catchment area, but it is only with more results that this hypothesis will be confirmed.

## Discussion

Both sites at Lake Ossa form a part of the same ceramic industry. It is characterized by the rice grain and "pineapple skin" decorative designs and by the occurrence of inner lines for two potsherds. This is the first mention of such a morphological feature for cameroonian pottery. Furthermore similarities appear in styles between Ossa potsherds and those from pits sites dated from the first millennium BC. This suggests a long-term maintenance of pottery tradition.

At this date little can be said about how the inhabitants lived in this region, but the completion of sedimentological and palynological studies on cores taken in Lake Ossa may change this. Preliminary pollen spectra (Reynaud-Farrera et al. 1996) show that the Biafrean rain forest have persisted in the area, with perturbations, during the last 5 millennia. Around 2700 B.P., a general change is marked by the lowering of arboreal pollen and the increase of several pioneer taxa and Gramineae. This phe-

nomenon is attributed to drier conditions which are also documented by the fluctuations of diatoms associations in the lacustrine sediments (Nguetsop et.al. 1996) and by the decreasing of sedimentation rates in the lake (Wirrmann et.al. 1997). Maximum drier conditions prevailed between 2300-2000 B.P. Then a rise in the abundance of *Elaeis guineensis* is observed from 200-600 A.D. and it is only after 1100 A.D. that the rain forest took its present condition. Since the colonization of a forested area is favoured when the arboreal vegetation is declining, it was logical to suppose that the occupation of Lake Ossa basin might occurred preferably during the time interval between 2700 and 920 B.P. It is during the stage of rain forest reinstallation that people have been present, the question of a lack of information is asked. One explanation is that the survey was restricted to the southern part of the catchment basin. The Lake Ossa area belongs to the Iron Age and must be integrated in the larger context of southern Cameroon. About forty dates are available for southern forested Cameroon from the littoral till around Yaoundé, between 2°15' - 4° latitude N. and 9°45' to 11°40' longitude E. (Essomba 1991; Elouga 1993; Kadomura et al. 1986; de Maret 1985, 1992). It appears that the occupation of this area developed especially during the time intervals 3300 and 2000 and 1000 and 200 B.P. It strongly suggests a gap between the beginning and the end of the second millennium. It is unlikely that the lack of information at this time is due only to the scarcity of survey. Prior in the time, Sangoan and Lupemban assemblages are found in this area (Omi and Kato 1982) showing that people settled in southern Cameroon around 42 000 B.P.

The human occupation of the Lake Ossa basin documented by our results might be considered as the last phase of peopling of the place before the arrival of Ndonga and Yakalak, immigrants from Kwakwa region at the end of eighteenth century. Detailed, integrated studies of ethnology and archaeology are needed for a better understanding of both modern and ancient human settlements in this area.

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