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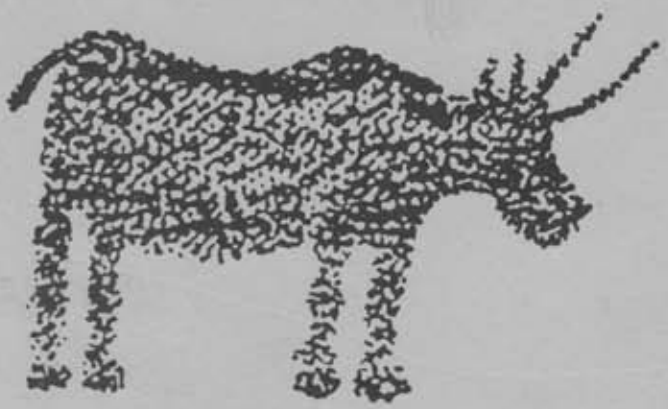

# Preliminary Results of Archaeological and Paleoenvironmental Research in Northern Kenya

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This report presents preliminary results of a research project in northern Kenya involving an investigation of the interrelationships between a changing climate and environment and changes in human demography, economy, and culture. The project has been funded by the Ford Foundation and the Kenya National Council for Science and Technology. Support of Kenyan students in the field was assisted by a Baldwin Fellowship from the L.S.B. Leakey Foundation. A total of six research field trips have been made to the East Turkana/Chalbi area between August 1979 and August 1981 (Nyame Akuma 17 and 18). I report here only on the archaeological and paleoenvironmental results.

Archaeology

Five sites have been excavated in the area of North Horr (Fig. 1), all of them located in sand dunes. The first two were excavated by D.W. Phillipson (1977,1979) in 1974 and named by him North Horr I and II. I have used the SASE System and the sites have been designated GcJm 1 and 2. I reexcavated GcJm 2 and excavated GcJm 3-5 in 1979, assisted by Mr. John Ogolla.

Dating - GcJm 1: 4405±130 b.p., 3330±130 b.p. (Maggs 1977).
GcJm 2: 1525±155 b.p., 748±140 b.p. (Maggs 1977).
GcJm 3: 1150±110 b.p.

The latter date was made on charcoal taken from the bottom of a hearth at 95 cm below the surface. Bone was recovered from GcJm 4 and 5, but since it was found diffusely scattered throughout the sediments it was thought unwise to use it for dating purposes.

Economy - Animal bone was in a highly comminuted and weathered state rendering identification difficult.
GcJm 1- No reported domestic animals.
GcJm 2- Definite ovicaprid in spit 1 (0-20 cms), possible cow and ovicaprid below.
GcJm 3- Possible cow in spit 2.
GcJm 4- Possible cow in spit 4, definite cow on surface. Definite ovicaprid in spit 2.
GcJm 5- No identified domestic animal remains.

The above suggests that herding was part of the subsistence base of the North Horr inhabitants. To mitigate the poor quality of faunal remains it is hoped in the future to collect much larger samples of bone. A few large bovids, zebra and gazelle were also identified, but the numbers were too few to make valid percentage calculations. No evidence of fish or other aquatic life was found. Mr. John Kimengitch of the National Museum kindly made the analysis.

Cultural material - Mr. John Ogolla has presented an analysis of the North Horr material as a B.A. dissertation in Archaeology at the University of Nairobi. He also included in the study Phillipson's North Horr sites and a sample from Barthelme's (1977) East Turkana sites (GaJi 4 and FwJj 5). One of the most striking features of the North Horr assemblages is the great variety of ceramic decorative motifs seen at each site. I believe this to be indicative of the mixing of remains from more than one occupation period in the unconsolidated sand deposits of the dunes. This conclusion is supported by the fact that the dates are separated by 1075 years at GcJm 1 and 777 years at GcJm 2.

Similarities discerned between the assemblages are:
1) GcJm 1, 2, and 3 and FwJj 5 (Ileret) - A technique of applying short, oblique incisions in linear fashion resulting in design motifs that can be herring bone, parallel lines, or lines intersecting at a right or slightly acute angle.
2) GcJm 3 and 5 and FwJj 5 - A very distinct design motif consisting of an incised line parallel with the rim with incised oblique crosshatching immediately below the line.
3) GcJm 1 and GaJi 4 - Small punctates arranged in parallel lines.
4) GcJm 1 and 3 and GaJi 4 - Internal scoring (the so-called Nderit Ware of Barthelme (1977)).

5) GcJm 1, 2, 4, and 5 and FwJj 5 - Stone vessels, all surface finds.

There were many sherds that displayed distinct features of rim and decoration attributes and paste texture that were unique. Much work remains to be done before ceramic traditions can be defined for East Turkana and a culture historic sequence constructed. Larger ceramic assemblages are needed and sites that represent unambiguous single occupation periods must be located, excavated, and dated. The above results are only preliminary and a more detailed study of the current collections is envisaged.

Ten stone cairns were excavated at Kokurmatakore hill (originally reported as Kalacha Bule) near the village of Kalacha (Fig. 1). The site complex has been designated as GdJn. Nine of the ten stone structures contained human burials. The following two tables summarize the results:

Table 1.

| GdJn | Cairn Type | Lab. No. | Date | Age | Sex |
|---|---|---|---|---|---|
| 1 | Platform | GX-7395 | Too small | Adult | ? (fragments) |
| 2 | Platform | GX-7396A | 960±190 b.p. | Adult | ? |
| 3 | Ring | GX-7420A | 585±115 b.p. | 20-24 | Male |
| 4 | Small mound | GX-7421A | 3460±155 b.p. | 35-50 | Male |
| 5 | Ring | GX-7423A | 125±120 b.p. | 18-25 | Male |
| 6 | Ring (attached to 3) | GX-7422A | 510±115 b.p. | 16-20 | Male |
| 7 | Platform | | | Adult | Female |
| 8 | Small mound | | | - | - (Empty) |
| 9 | Small mound | | | ? | ? (fragments) |
| 10 | Ring | | | Adult | Male |

Samples from cairns GdJn 7, 9 and 10 will be sent for C-14 dating if funds become available. A preliminary skeletal study was conducted by Ms. Lynne Schepartz of the University of Michigan. A more detailed discussion of the research can be found in Stiles and Munro-Hay (in press).

Table 2.

| GdJn: | 2 | 3 | 4 | 5 | 6 | 7 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|
| Body position | F | B | F | F | F | F | F | B |
| Side | R | R | L | R | R | L | R | R |
| Head pointing | N | ENE | SE | NE | E | NE | W? | N |
| Face pointing | W | NW | SW | W | N | SE | S? | W |
| Tooth evulsion | No | $M_{-4}$ | No | $M_{-2}$ | $M_{-4}$ | No | ? | $M^{-6}_{-4}$ |
| Stone pillow | No | ? | No | Yes | Yes | No | No | Yes |

F- flexed
B- legs bent, body straight
R- right side
L- left side

$M^{-}_{-}$ number of central upper teeth missing / number of central lower teeth missing

Full argumentation will be presented elsewhere, but the C-14 dates, historical linguistics, and burial data suggest the following:

1) Cairns GdJn 3, 5, 6, and 10 belong to the same cultural group. They date from about the 14th century up to recent times. The mixture of Eastern Cushitic (stone ring burials) and Nilotic (incisor evulsion) traits suggests an Eastern Cushitic population who had close contacts with Nilotes. The best candidate is the Rendille. It appears that

a transformation of the custom of lower incisor evulsion from four to two teeth took place between the 15th and 19th centuries A.D. The Rendille today remove the two lower central incisors, as seen in GdJn 5. No occupation sites in the region have been dated this late.

2) Cairns GdJn 1, 2, and 7 almost certainly belong to the same cultural group, and one different from the ring group. The three platform cairns on Kokurmatakore are the only ones of this type yet seen in northern Kenya, in spite of widespread survey. GdJn 2 was dated to about the 10th century A.D. and is thus broadly contemporaneous with GcJm 2 and 3 of North Horr. The most likely people to have constructed the cairns and lived in North Horr were early Oromo-speakers, possibly ancestors of the cattle herding Wardai of Boran and Gabbra traditions.

3) It is not known if the two mound cairns, GdJn 4 and 9, belong to the same cultural group. Not enough bone of 9 remained to compare to 4, 9 remains undated, and mound cairns are a very common style and were probably used by more than one cultural group. GdJn 4 was probably built by Southern Cushitic-speaking pastoralists. The association of a stone vessel and obsidian artifacts with the mound and goat bones found within the mound stones resembles mounds found further south in Kenya and assigned to the Pastoral Neolithic Industrial Complex. Dating and cultural material also suggest that there are cultural relationships between GdJn 4, GcJm 1 at North Horr, FwJj 5 (dated to 4000±140 b.p.) at Ileret, and the Unit 1 burials at Lowasera (Phillipson 1977a). The above suggestions will be used as working hypotheses in future research and are not intended as final conclusions.

An analysis of the ethnoarchaeological research, i.e. the material culture inventory of the Gabbra and excavation of their abandoned settlements, has revealed that almost nothing of traditional Gabbra culture would remain in the archaeological record. The Gabbra and other camel pastoralists usually move camp more often than cattle pastoralists because they live in a less productive environment. Pottery is relatively fragile and cumbersome and is thus not suited to a nomadic way of life. Prehistoric camel pastoralists may not have needed cooking vessels since tea and maize meal were not then available in the region, there might not have been agriculturalists nearby with whom to trade for grain, and milk, blood, and meat do not have to be boiled. If early camel pastoralists did not use pottery, that would help to explain why no early camel pastoralist sites have yet been found. The sites are of very low archaeological visibility, and the people may be those buried in the ring style burials.

Paleoenvironmental Reconstruction

The results of the pollen analysis of the pits dug into the Chalbi paleolake flats near North Horr (marked in Fig. 1), conducted by Ms. Annie Vincens of the CNRS palynological laboratory in Marseille, indicate that Podocarpus forests on nearby mountains were significantly larger in the past and that palm groves around North Horr were more developed than today (Table 3, Stiles and Vincens n.d.). Prevailing winds would indicate

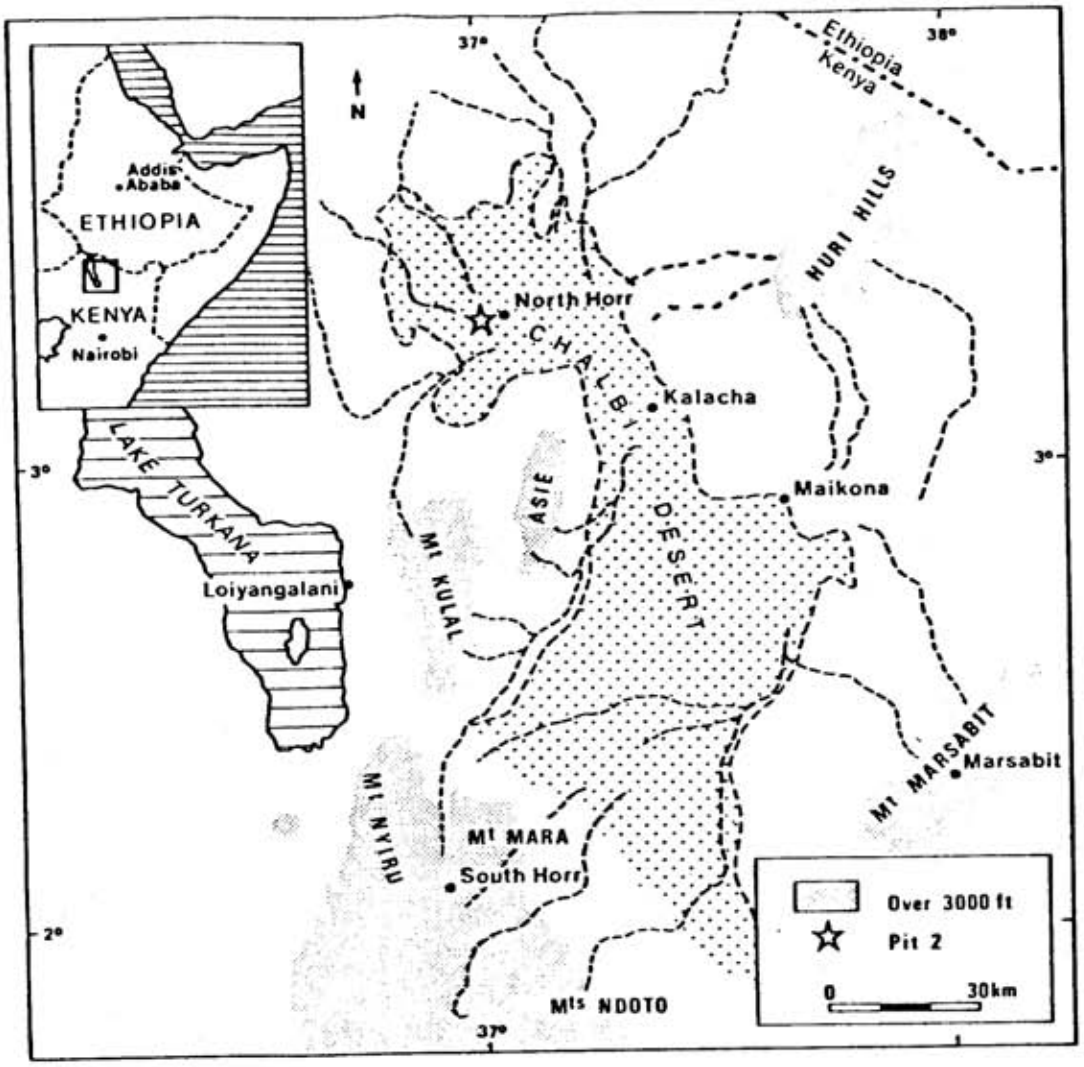


Fig. 1

| Table 3. | Recent | | | Holocene | | |
|---|---|---|---|---|---|---|
| Taxa Type | $S_7$ | % | $S_8$ | 120 cm | % | 160 cm |
| Highland Forest | 1.4 | | 3.1 | 41.7 | | 64.7 |
| Palm | 0.0 | | 0.4 | 1.7 | | 5.0 |
| Sub-desertic scrub | 46.1 | | 37.8 | 0.8 | | 0.5 |
| Cosmopolitan | 49.9 | | 56.7 | 55.0 | | 27.9 |
| Pteridophyte spores | 0.6 | | 0.0 | 0.8 | | 2.0 |
| Indeterminate | 1.8 | | 1.9 | 0.0 | | 0.0 |
| Total pollens | 501 | | 259 | 201 | | 240 |
| Diversity of Taxa | 33 | | 28 | 6 | | 6 |

that the Podcarpus pollen came from Marsabit or the Huri Hills, neither of which have Podocarpus today (Synott 1979). The Huri Hills is called Bada Huri in Borana, meaning 'Forest Hills', and oral traditions indicate that forests once existed there. Today forests are

limited to east-facing canyons and the rest of the hills are kept a grassland by firing by the pastoralists. If the Podocarpus did originate from the Huris and Marsabit, the period of deposition might correlate with a similar extension of Podocarpus forests seen about 500 km to the north around Lake Abiyata and dated to between 6500 and 4800 B.P. (Lezine 1981). It is not certain whether Podocarpus exists today on Mt. Kulal (Synott 1979), but if it did in the past it could have been a source for some or all of the pollens found at North Horr. Podocarpus is seen on Mt. Nyiru and the Ndotos today, a minimum of 120 km south of North Horr. Wind and drainage patterns make it unlikely that the forest pollens originated there.

A tree branch in the form of powder was uncovered at a depth of about 80 cm in GdJn 3 at Kokurmatakore in sediments of hard, dark brown silty clay containing numerous calcium carbonate pebble concretions. This horizon indicates that the Chalbi lake at that time extended this far, a distance of about 5 km from the present shoreline. The wood powder has been C-14 dated to 1110±155 b.p., or about the 9th century A.D., indicating a humid period as recently as that. Water has not covered the area since at least 585±115 b.p., the date of the GdJn 3 stone ring. The stratigraphy in GdJn 3 indicates that permanent water conditions prevailed for a short time after the deposition of the tree branch (10 cm of sediments).

Between about 30 and 70 cm depth the sediments are a dark brown, fine-grained silt with clay pockets and numerous dense lenses of calcified root casts. The shell of a fresh water gastropod was found at 45 cm. This seems to indicate a rapidly fluctuating lake margin environment, sometimes flooded and at other times dry. This swampy environment persisted until perhaps as late as the 12th century, based on a calculated average sedimentation rate of 1 cm every 6.5 years between 1110 and 585 b.p. (525 years, 80 cm of deposits). This would be consistent with a picture of increasing dessication in the region eventually prompting autochthonous pastoralists to adopt camels (the Rendille ?) and also invitingthe immigration of camel pastoralists from the northeast to occupy the lowland grazing areas no longer optimal for cattle.

Above the lake margin sediments are found soft, brown sandy silts containing an occasional lava pebble, a combination of colluvial and aeolian deposits indicative of a semi-arid environment not unlike that of the present time. This reconstruction is consistent with the results of work conducted by Butzer (1974) in the Omo delta north of Lake Turkana, by Gasse et. al.(1979) in the Ethiopian rift valley lakes, and by Rognon (1974) in the Awash valley in Ethiopia. The process of cattle pastoralists adopting camels in the face of deteriorating environmental conditions can be seen today among the Samburu north of the Uaso Nyiro river and the Pokot and Njemps in the Baringo valley of Kenya.

If funds are forthcoming this research project will be continued in the summer of 1982.

Barthelme, J. 1977. Holocene sites northeast of Lake Turkana. Azania 12:33-42

Butzer, K.W. 1974. Recent history of an Ethiopian delta. Univ. Chicago Geogr. Dept. Res. Papers 136:123-130.

Gasse, F., P. Rognon, and F.A. Street. 1979. Quaternary history of the Afar and Ethiopian Rift lakes. in The Sahara and the Nile, (Eds.) M.A.J. Williams and H. Faure. Rotterdam:Balkema.

Lezine, A.M. 1981. Ph.D. thesis, Univ. of Bordeaux I.

Phillipson, D.W. 1977. The Later Prehistory of Eastern and Southern Africa. London:Heineman.

_____1977a. Lowasera. Azania 12:1-32.

_____1979. The origins of prehistoric farming in East Africa. in Ecology and History in East Africa, (Ed.) B.A. Ogot. Nairobi:Kenya Literature Bureau.

Rognon, P. 1974. Modifications naturelles du cycle hydrométéorologiques depuis 10,000 ans. C.R. Journées de l'Hydraulique Soc. Hydrotech. 12.

Stiles, D.N. and S. Munro-Hay 1981. Stone cairn burials at Kokurmata-kore, northern Kenya. Azania 16, in press.

Stiles, D.N. and A. Vincens. n.d. Late Quaternary pollen studies in northern Kenya. ms.

Synott, T.J. 1979. Report on the status, importance and protection of the mountain forests. IPAL Technical Report D-2a. Nairobi:UNESCO.